PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES

TO PREPARE

AVILA POINT

ENVIRONMENTAL CONSTRAINTS ANALYSIS AND DRAFT AND FINAL ENVIRONMENTAL IMPACT REPORT

Prepared for:

COUNTY OF SAN LUIS OBISPO
Department of Planning and Building
County Government Center
San Luis Obispo, California 93408
Attn: Ryan Hostetter, Project Manager

Prepared by:

DOUGLAS WOOD & ASSOCIATES, INC.
1461 Higuera Street, Suite A
San Luis Obispo, California 93401
805-544-1680

May 24, 2013

TABLE OF CONTENTS

Appendices

I. BACKGROUND AND APPROACH

It is our understanding that the County of San Luis Obispo has requested a proposal to prepare environmental documentation, that being an Environmental Constraints Analysis as well as a Draft and Final Environmental Impact Report (EIR), for the proposed Avila Point Specific Plan Amendment/Coastal Plan Amendment/Development Plan/Remediation Project (DRC 2012-00048; LRP 2012-00003, ED 12-129). The 95 acre project site is located at 1717 Cave Landing Road adjacent to and south of downtown Avila Beach and extends from the Avila Bay shoreline to Cave Landing Road and approximately one mile west of Highway 101. The project site is located in the San Luis Bay Coastal Planning Area and the Avila Beach Specific Plan Area. It is currently vacant open space containing buildings, underground pipelines, accessory structures and other facilities associated with the site's prior use as a tank farm operated by the Union Oil Company. Adjacent land uses include the existing community of Avila Beach to the west, open space, residential uses, recreation uses (Pirate's Cove) and Highway 101 to the east, Cave Landing Road and vacant open space to the north and Avila Bay to the south.

The Avila Point project involves the preparation of a Development Plan by the project applicant, Chevron Land and Development Company, to address the cleanup of the project site which will be based on a Remedial Action Plan to be prepared by the project applicant. Site remediation is anticipated to include the clean up of previous contamination due to the historic use of the site as the Avila Tank Farm. The proposed project also includes processing of a Local Coastal Plan/Specific Plan Amendment necessary to amend the current Industrial land use designation to a land use category that would accommodate the re-use and redevelopment of the project site as well as preparation of a Development Plan to identify and accommodate future uses of the subject property. The project applicant has submitted an initial application to the County for these required actions and has prepared a preliminary site plan (or "vision package") which includes the rezoning of the subject property from its current Industrial designation to a Recreation land use designation as well as the construction of a resort which would include a restaurant, spa, shops, cottages, a hotel and other related facilities. Several areas within the project boundaries are proposed to remain as vacant open space. These preliminary plans also include the provision of a coastal bluff trail as part of an overall on-site trail system, parking area(s), and cart paths in order to minimize automobile use throughout the subject property.

Our firm will assist the County in the preparation of the Development Plan which will identify future uses of the Avila Point property. This effort will involve the identification of environmental constraints on or adjacent to the project site. Preparation of a Constraints Analysis by our firm will require the review of any applicable previously-prepared analyses as well as additional on-surveys as necessary. These constraints will be presented in a manner that is suitable for use in these site planning efforts. This Development Plan will provide the basis for the Project Description to be included in the EIR.

Our firm will also prepare all required environmental documents for the proposed project. It is anticipated that these documents will include an Initial Study which outlines the nature and extent of potential environmental impacts, a Notice of Preparation and the Draft and Final Environmental Impact Report. The EIR will identify any potentially significant environmental impacts, propose mitigation measures to reduce these identified impacts, determine whether any

of the impacts remain significant after implementation of proposed mitigation measures and provide project alternatives capable of reducing any remaining significant impacts.

The EIR for the Avila Point project will be prepared in a manner to cover all of the proposed actions and approvals associated with the project as noted above. This EIR shall meet all of the requirements set forth in the California Environmental Quality Act (Public Resources Code 21000 et. seq.) and the State CEQA Guidelines. As such, this EIR will be subject to public review and comment. This Draft and Final EIR will provide a full and fair discussion of the environmental impacts of the currently proposed Avila Point project. In preparing this EIR, the County of San Luis Obispo decision-makers, staff and members of the public will be fully informed as to the impacts, mitigation measures and alternatives associated with the proposed project. In accordance with Section 15021 of the State CEQA Guidelines, this EIR is intended to enable the County of San Luis Obispo, as Lead Agency, to evaluate these environmental impacts, mitigation measures and project alternatives in their consideration of the project proposal.

Included in our scope of work is the attendance at a variety of project meetings with County staff, other involved regulatory agencies, local advisory groups and members of the public. Also included in our scope of work is representation at all required public meetings and hearings. We also anticipate assisting County staff in the processing of the various applications associated with the proposed project.

Section II of this proposal, titled "Scope of Work", will itemize and discuss in detail the steps to be taken in our approach and will describe the nature and extent of discussions within the EIR.

II. SCOPE OF WORK

A. Work Plan

Douglas Wood & Associates, Inc. will provide research and analysis as required for the preparation of an Environmental Constraints Analysis/ Project Description and a Draft and Final Environmental Impact Report for the proposed Avila Point Specific Plan Amendment/Coastal Plan Amendment/Development Plan/Remediation Project (DRC 2012-00048; LRP 2012-00003, ED 12-129). We perceive this effort being divided into three project phases involving a total of nine major work tasks. These three phases, Preparation of a Constraints Analysis/Development Plan, Preparation of a Draft and Final EIR and Project Coordination/Meetings and Hearings, and their respective tasks will include the following.

Phase I: Preparation of a Constraints Analysis/Development Plan

Task 1 - Documentation Review/Background Research

This phase will commence with the review and consolidation of available data and background information pertinent to the preparation of the Draft EIR. This information may include, but is not limited to: topographic base maps and aerial photographs of the project area, project site plans, building elevations, grading plans, landscape plans, circulation plans and prior environmental analyses and site surveys related to the project site or adjacent areas. These prior analyses and site surveys include: 1) biological assessments prepared by David Wolff Environmental in 2003 through 2005; 2) archaeological field surveys and assessments prepared by Gibson's Archaeological Consulting between 1992 and 2010; 3) draft visual simulations prepared by the project applicant and 4) an extensive number of studies and monitoring reports prepared by several consultants between 1997 and 2012 related to on-site soil and groundwater characteristics and associated health risks. Any additional studies that are currently being prepared by the project applicant in the areas of hazardous materials and traffic circulation will, if available, also be reviewed. We will, within this task, also review pertinent portions of the following documents: the Avila Beach Specific Plan, the Local Coastal Plan, the County Land Use Ordinance and other Elements of the County General Plan.

This information will be reviewed with the goal of validating the existing documentation and identifying the extent of additional analyses that will be required. Included in this task is peer review of several previously-conducted analyses noted above. This peer review of previously-prepared analyses will involve a detailed evaluation of the accuracy of existing conditions information, the adequacy of impact assessments and the appropriate extent of proposed mitigation measures within these analyses. Any deficiencies within these existing analyses will be identified accompanied by an identification of additional work tasks necessary to resolve these deficiencies. Any additional research and analysis beyond the scope of the peer review would be conducted under a mutually acceptable separate contract.

Task 2 – Preparation of Environmental Constraints Analysis

Upon completion of Task 1 above, we will commence with conducting all required field surveys and the preparation of written analyses from the specialized subconsultants. The nature and extent of these analyses are discussed in detail within Section II.B., Environmental Analysis of this proposal. We currently anticipate specialized consultant analyses in the areas of biological resources, traffic and circulation, cultural resources, geology and soils/hazards/hydrogeologic resources, noise and air quality/greenhouse gas assessment being necessary for this project. Included in this task is in-house staff time required to review these analyses and provide coordination with the subconsultants in order to insure an adequate and complete product from these sources.

Preparation of a Constraints Analysis by our firm will require the review of any applicable previously-prepared analyses as well as additional field surveys noted above. This Constraints Analysis is intended to identify any "fatal flaws" associated with the development of the project site prior to initiation of the preparation of the Draft and Final EIR. Site and site vicinity conditions and constraints will be identified with respect to biological resources, traffic and circulation, cultural resources, geology and soils, hazards, hydrogeologic resources and existing noise conditions. The environmental constraints identified on or adjacent to the project site will be described and, where possible, illustrated with graphics to indicate the precise location of these potential constraints to development. These constraints will provide the basis for our subsequent preparation of a Project Development Plan.

Task 3 – Preparation of Project Development Plan and Project Description

Based upon the identification of the environmental constraints as noted above, we will proceed with preparation of a Project Development Plan. This site planning effort is anticipated to be a collaborative effort of our firm, County staff and the project applicant. We anticipate that many of the land uses contained within the applicant's "vision package" will be integrated into the draft Project Development Plan. However, our site planning efforts may also involve the presentation of alternative land uses which are capable of reducing or eliminating potentially significant environmental impacts. Once a consensus is reached as to the nature and extent of proposed land uses on the Avila Point site, a final Project Development Plan will be prepared and submitted to the County. This final Project Development Plan will provide the basis for the Project Description to be included within the Initial Study, Notice of Preparation and Draft and Final EIR.

This work phase will culminate in the preparation of a draft Project Description which will discuss in detail all aspects of the proposed project and an EIR Outline indicating the general structure of the document and extent of the Draft EIR. It is anticipated that the Project Description will discuss the proposed project in terms of project background, project objectives, project location, project characteristics, required permits and approvals and project timing.

A total of five (5) copies of the Project Description and EIR Outline will be provided to the County for review and comment. Upon completion of County review, four (4) hard copies and one (1) electronic copy of the Project Description and EIR Outline will be submitted to the County Environmental Coordinator.

Phase II: Preparation of a Draft and Final EIR

Task 4 - Preparation of Administrative Draft EIR

Once the Project Description is completed, an Initial Study will be prepared which will involve completion of the CEQA Initial Study and Environmental Checklist. This Initial Study will be prepared with the assumption that a Draft Environmental Impact Report will be prepared for the proposed project. Environmental issues to be addressed within the Initial Study will be the subject of additional, more detailed analysis within the Draft Environmental Impact Report. Included within this task is responding to comments on the Initial Study by the County Environmental Coordinator. Once the Initial Study is completed and approved, a Notice of Preparation will be prepared to accompany the public distribution of the Initial Study and Environmental Checklist. At this point, we will assist County staff in determining the proper type of EIR to be prepared, i.e. Program EIR, Master EIR etc. pursuant to Article 11, Sections 15160 through 15170 of the CEQA Guidelines.

With completion of the work tasks noted above, we will commence with preparation of an Administrative Draft EIR pursuant to the requirements of the State CEQA Guidelines (Sections 15120 et. seq.) as well as procedures adopted by the County of San Luis Obispo, as Lead Agency, relative to the California Environmental Quality Act. This document will be submitted for review to the County Environmental Coordinator and other sources deemed appropriate by the County Environmental Coordinator. This Administrative Draft EIR will also be prepared to meet the requirements of the County of San Luis Obispo for implementation of CEQA. Topic areas to be discussed within this document will include those issues identified in the Initial Study. The results of technical reports prepared by subconsultants noted in Task 2 above will be discussed in detail in the Administrative Draft EIR. Pursuant to the State CEQA Guidelines, a Mitigation Monitoring and Reporting Program will also be prepared and included in the Administrative Draft EIR. The Administrative Draft EIR will be constructed according to the following general outline. As noted therein, additional topics of environmental analysis (Section V) or additional project alternatives (Section VII) may be added during document preparation, document review or in response to concerns raised during the circulation of the Notice of Preparation.

I. INTRODUCTION AND PURPOSE
   - A. Environmental Procedures and Format
   - B. CEQA Topics Location
   - C. Effects Found Not to be Significant

II. EIR SUMMARY / MITIGATION MONITORING PROGRAM

III. PROJECT DESCRIPTION
   - A. Project Background
   - B. Project Objectives
   - C. Project Location
   - D. Project Characteristics
   - E. Required Permits and Approvals
   - F. Project Timing

IV. ENVIRONMENTAL SETTING
- A. Existing Site Conditions
- B. Adjacent Land Uses
- C. Cumulative Projects

V. ANALYSIS OF ENVIRONMENTAL ISSUES
- A. Aesthetics
- B. Air Quality
- C. Biological Resources
- D. Cultural Resources
- E. Geology and Soils
- F. Hazards and Hazardous Materials
- G. Noise
- H. Public Services/Utilities
- I. Recreation
- J. Transportation/Circulation
- K. Wastewater
- L. Water
- M. Land Use and Planning

(Additional areas of analysis may be added in response to concerns raised during document preparation).

VI. UNAVOIDABLE ADVERSE IMPACTS

VII. ALTERNATIVES TO THE PROPOSED PROJECT
- A. No Project
- B. Revised project design to avoid or mitigate identified significant environmental impacts associated with the proposed project
- C. Reduced project in terms of size or intensity to avoid or mitigate identified significant environmental impacts associated with the proposed project
- D. Alternative project phasing in response to identified environmental or infrastructure constraints
- E. Alternative land uses
- F. Alternative Project Sites

(Additional alternatives may be determined to be necessary during document preparation).

VIII. GROWTH INDUCING IMPACTS

IX. ORGANIZATIONS AND PERSONS CONSULTED

X. REFERENCES

XI. COMMENTS AND RESPONSES TO DRAFT EIR (to be prepared after Draft EIR circulation)

Section V. Analysis of Environmental Issues involves a section-by-section analysis of the issues listed therein. This analysis will discuss existing conditions, thresholds of significance, project impacts, cumulative impacts, mitigation measures and residual impacts. Identified impacts will be designated as significant or insignificant pursuant to criteria within the State CEQA Guidelines. Indirect or secondary impacts of the project shall also be discussed and mitigation measures recommended. Mitigation measures will be described in sufficient detail (i.e. objective of measure; specifics of the mitigation measure including its design, implementation, and any relevant, measurable performance standards; the agency organization or individual responsible for implementation; the location of the measure's area of impact; and timing for implementation) pursuant to the State CEQA Guidelines. Mitigation measures addressing both primary and secondary project impacts will, where applicable, be provided. Residual impacts will be categorized as Class I through IV impacts pursuant to County analysis procedures.

The Mitigation Monitoring and Reporting Program shall be included in the Administrative Draft Screencheck EIR pursuant to Public Resource Code Section 21081.6 and shall be developed for all applicable mitigation measures. Responsible monitoring parties shall be identified and will include, but will not be limited to, the County of San Luis Obispo or other involved regulatory agencies. The monitoring program will incorporate both monitoring by the County and reporting by the developer with subsequent report verification by on-site inspection, if necessary. Involvement by a private, independent consultant may be included in the monitoring program. Mitigation milestones addressing the timing of implementation of these mitigation measures will also be provided. The need for post-construction monitoring will be identified where necessary. The Mitigation Monitoring Program will also include a dispute resolution procedure to resolve any future disagreements between the County and the developer concerning implementation of mitigation measures and adherence to the Monitoring Program.

Project alternatives beyond the currently proposed project will include: 1) the No Project Alternative; 2) Project alternative(s) involving a redesigned project which avoids or mitigates identified significant environmental impacts associated with the proposed project (such as revised project land uses, building locations or roadway configurations); 3) Project alternative(s) involving a reduction in the size or intensity of the proposed project or portions of the project in order to avoid or mitigate identified significant environmental impacts; 4) Alternative project phasing where the timing of project development is tied to the elimination of identified environmental or infrastructure constraints); 5) Alternative land uses; 6) Alternative project sites and 7) other alternatives resulting from project review by the County or other involved parties.

Five (5) copies of the Administrative Draft EIR and appendices including four (4) unbound, 3 hole punched copies with appendices in three-ring binders and one (1) CD in original (Word) format will be submitted to the County Environmental Coordinator for review and comment.

Task 5 - Preparation of Draft EIR

Upon receipt of all comments from the County Environmental Coordinator and other appropriate sources, the Administrative Draft EIR will be revised as necessary. A "printcheck" copy of the

Draft EIR will be provided to the County Environmental Coordinator to insure that all comments and required revisions were appropriately incorporated into the document.

Upon authorization by the County Environmental Coordinator, the Draft EIR will be printed and prepared for distribution for the required 45-day public review period. In accordance with the County's Request for Proposal, we will provide forty-five (45) copies of the Draft EIR with appendices as follows: five (5) unbound, 3 hole punched copies with appendices in three-ring binders; fifteen (15) bound copies with appendices with CDs in envelopes at the back of the document; twenty-five (25) CDs with graphics and appendices in "searchable" pdf format; ten (10) separately bound copies of appendices and one (1) electronic copy in original (Word) format. We will also provide the County with a Draft EIR in an acceptable web-friendly format so that the text and graphics of the Draft EIR can be placed on the County's website.

Task 6 - Preparation of Administrative Final EIR/ Responses to Comments

Upon completion of the required public and agency review period, all appropriate comments will be compiled and responses will be prepared by our firm. This Responses to Comments package will be submitted to the County Environmental Coordinator for review and approval. Where required, the technical expertise of the involved subconsultants will be utilized in order to provide the most complete and technically adequate responses possible. Five (5) copies of the Administrative Final EIR with appendices including two (2) three-holed punched copies in binders, two (2) bound copies and one (1) CD will be submitted to the County Environmental Coordinator for review and comment.

Task 7 - Preparation of Final EIR

Upon receipt of all comments from the County Environmental Coordinator, we will fully respond to all comments and revise the Final EIR as necessary. A "printcheck" copy of the Final EIR will be provided to the County to insure that all comments and required revisions were appropriately incorporated into the document. In accordance with the County's Request for Proposal, we will provide fifty-five (55) copies of the Final EIR which will include the Responses to Comments package, any additional Technical Appendices and copies of the actual comments received on the Draft EIR as follows: five (5) unbound copies with appendices in three ring binders; twenty-five (25) bound copies with graphics and appendices with CDs in envelopes at the back of the document; twenty-five (25) CDs with graphics and appendices in "searchable" pdf format; fifteen (15) separately bound copies of appendices and one (1) CD in original (Word) format.

If the Mitigation Monitoring and Reporting Program is not incorporated into the Final EIR, we will provide five (5) bound copies, one (1) unbound, single-sided copy, one (1) CD with graphics and appendices in "searchable" pdf format and one (1) CD in original (Word) format.

Task 8 - Preparation of Findings of Fact/Statement of Overriding Considerations

We will prepare Findings of Fact/Statement of Overriding Considerations for the proposed project pursuant to Sections 15091 and 15093 of the State CEQA Guidelines in a format approved by the County's Environmental Coordinator. These Findings will provide the following information: a) background relative to the processing of the proposed project; b) a Statement of Overriding

Considerations which lists the public benefits of the project; c) a listing of project impacts which have been reduced to a level of insignificance accompanied by required findings and references to pertinent mitigation measures; d) a similar listing of project impacts which have not been reduced to a level of insignificance accompanied by required findings and references to pertinent mitigation measures; e) an overview of growth-inducing impacts of the project; f) discussion of the project alternatives considered in the Final EIR; and g) other required findings pursuant to the State CEQA Guidelines and Public Resources Code. These Findings of Fact will also make determinations that the Final EIR reflects the independent judgment of the Lead Agency and that no additional public circulation of environmental documents is required. This task will be billed on a time and materials basis; a budget maximum for this task based upon the anticipated scope of work noted above is provided in Section VI. Cost Data of this proposal.

Phase III: Project Coordination/Meetings and Hearings

Task 9 - Project Organization and Coordination

Douglas Wood & Associates, Inc. will act as an extension of the County of San Luis Obispo, Environmental Division throughout the entire project from initial document review through completion of the environmental documentation. At the outset of the project, Wood & Associates will prepare and present to the County Environmental Coordinator on this project, for his or her approval, a step-by-step schedule and coordination program to insure timely and efficient completion of the tasks noted above.

We will coordinate all meetings between the County staff and consultant team, as necessary, as well as meetings among the consultant team members. We will also coordinate meetings, as necessary, between the County Environmental Division, other members of County staff, various outside agencies and other persons or groups. In addition to the County Environmental Division, we anticipate the need for meetings coordination with other outside departments or agencies including the County Planning and Building and Public Works Departments, Environmental Health Division, the Air Pollution Control District, the Regional Water Quality Control Board, the California Department of Fish and Game and the California Coastal Commission. We also anticipate the need for meetings and coordination with Native American representatives as well as the Avila Tank Farm Collaborative Assessment Team (ATCAT). We are also prepared to act as the County Environmental Division's representative at meetings of ATCAT on an as needed basis.

Within this Scope of Work, Douglas Wood & Associates, Inc. will attend a total of fifteen (15) meetings with the County Environmental Division which may involve other members of County staff, outside agencies, or other persons or groups deemed appropriate by the County. These meetings will commence with a project "kick-off" meeting and will insure continual contact between the County Environmental Coordinator and Wood & Associates throughout the entire project. Wood & Associates will prepare minutes from these meetings for submittal to the County Environmental Coordinator on this project.

We will, as necessary, also provide assistance to County in the processing of the various development applications associated with the Avila Point project, those being the Specific Plan Amendment, Local Coastal Plan Amendment and Development Plan.

This task will be billed on a time and materials basis; a budget maximum for this task based upon the anticipated scope of work noted above is provided in Section VI. Cost Data of this proposal. Attendance at any additional project meetings by Wood & Associates, Inc. beyond those noted above as well as meeting attendance by members of the subconsultant team can be provided on a time and materials basis, based upon billing rates contained in Section VI. Cost Data of this proposal and within the attached subconsultant proposals within Appendix B.

Task 10 - Public Meeting and Hearing Attendance

Within the scope of this proposal, we will provide representation at six (6) public meetings and hearings before the County Planning Commission, the County Board of Supervisors or any other group pursuant to the direction of the County Environmental Coordinator. We will be prepared to make any required presentations, respond to questions and/or participate in an advisory capacity as necessary.

Also included within this task is conducting a Public Scoping Meeting in the community of Avila Beach during the preparation of the Administrative Draft EIR. At this Scoping Meeting, we will be prepared to provide an overview of the process associated with and the contents of the Draft EIR as well as a question and answer period and an opportunity for public input. Key members of the consultant team will be in attendance to assist in clarification of the project and its associated impacts.

Attendance at these public meetings and hearings is separate from and in addition to project meeting attendance discussed in Task 9 above. This task will be billed on a time and materials basis; a budget maximum for this task based upon the anticipated scope of work noted above is provided in Section VI. Cost Data of this proposal. Attendance at any additional public hearings by Wood & Associates, Inc. as deemed necessary by the County beyond those noted above as well as public hearing attendance by members of the subconsultant team can be provided on a time and materials basis, based upon the billing rates contained in Section VI. Cost Data of this proposal and within the attached subconsultant proposals within Appendix B.

B. Environmental Analysis

The Initial Study will precisely identify issue areas to be addressed in the Draft EIR. Within the Initial Study, these issue areas will be categorized as those with: a) potentially significant impacts, b) potentially significant impacts that can be mitigated, c) insignificant impacts or d) beneficial impacts. All of the environmental issues as discussed below will be analyzed in the Draft EIR in terms of existing conditions, threshold of significance, project impacts, cumulative impacts, mitigation measures and residual impacts. Residual impacts will be categorized as Class I through IV impacts pursuant to County's impact analysis procedures. Several of these issues will require the preparation of specialized subconsultant analyses, the nature and extent of which are also discussed within the respective topic areas below:

1) Aesthetics – The nature and extent of visual impacts of the proposed project from selected vantage points in the area will be analyzed, most notably along adjacent roadways, from the

developed portions of Avila Beach and the adjacent shoreline and from Avila Bay will be assessed. Our visual resource assessment, which will provide the basis for discussions of aesthetics impacts in the Draft EIR, will involve the following elements:

a. A peer review of draft visual simulations prepared by the project applicant will be performed in order to determine whether such information will be useful in the following analysis of visual impacts.

b. Any potential visual resources constraints will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

c. Key vantage points will be determined based on visual access to the site, viewer-group expectations and sensitivity, along with applicable County policies and consultation with County staff. Vantage points will likely be located along adjacent roadways, from the developed portions of Avila Beach and the adjacent shoreline and from Avila Bay.

d. The location of proposed structures, landscaping and other project features will be established based upon land use data contained in the Project Development Plan and field surveys and staking provided by the applicant. Potential building heights and locations will be established by the placement of on-site reference pylons and flags.

e. Baseline photographs will be taken from key vantage points showing in-place pylons and other reference markers.

f. Project impacts will be evaluated by superimposing proposed structures, landscaping and other project features onto the baseline images. Computer generated photo-simulations showing "before and after" conditions will be used as the basis for the analysis. The analysis will evaluate the project's impacts relative to identified community visual resources. The physical attributes will be considered along with the viewer's expected response to the proposed changes. In addition, the proposed project will be analyzed for consistency with applicable planning policies and guidelines.

g. Mitigation measures will be provided in response to any identified potentially significant adverse visual impacts.

h. Additional photo-simulations of the project from key vantage points will be prepared showing proposed mitigation measures and illustrating their potential effectiveness will also be provided.

2) Air Quality/Greenhouse Gas Assessment - The impacts of short-term generation of pollutants associated with project construction as well as the long-term generation of air pollutants associated with project development will be analyzed. Included within the scope of this proposal is the provision of an Air Quality/ Greenhouse Gas Assessment provided by

the firm of Mestre Greve Associates. Their analysis of impacts upon air quality will include the following elements:

a. The existing air quality environment will be described in terms of meteorology, local topography affecting pollutant dispersion and ambient air monitoring data. A summary of current air management efforts which may be related to the proposed project will also be provided with particular emphasis on the Clean Air Plan and the requirements for air quality assessments identified in the San Luis Obispo Air Pollution Control District's CEQA Handbook. Any sensitive receptor areas within the project vicinity will be identified.

b. Short-term dust and emission generation due to project construction activities will be calculated. The type, amount, and duration of air pollutant emissions for all required construction activities will be estimated. Measures to reduce dust generation as required by the San Luis Obispo Air Pollution Control District will be identified. Additionally, measures contained in the Clean Air Plan for control of construction activity emissions will be included in the list of proposed mitigation measures.

   The potential for naturally occurring asbestos to be disturbed during grading and structural demolition will be discussed along with the procedures that will be required to insure that this will not result in a significant impact. Impacts from diesel particulate matter, a recognized toxic substance in the State of California will also be assessed qualitatively.

c. Long term emissions from the proposed project due to increased traffic and the combustion of natural gas and the generation of electricity required to meet the energy requirements of the proposed project will be quantified. The emissions generated by these sources will be calculated and compared to regional air quality data to determine the potential long-term or cumulative impacts of the proposed project.

d. A detailed discussion of the consistency of the project with the land use goals and policies of the Clean Air Plan will be provided.

e. Consultation with the San Luis Obispo County Air Pollution Control District will be provided in order to insure an accurate and complete reflection of their concerns and requirements as to the nature and extent of the air quality impacts analysis within the EIR and significant impact thresholds.

f. All comments received from public agencies, including but not limited to the Air Pollution Control District, and the general public concerning potential air quality impacts will be reviewed.

g. Feasible mitigation measures to reduce potential short- and long-term air quality impacts will be provided. These recommendations may include, but are not limited to, dirt control and equipment emission measures related to prevention of exposure

to naturally occurring asbestos and demolition activities and operational phase mitigations related to both residential and commercial phases of the project particularly as related to efficient energy use and the use of proper wood-burning devices will be evaluated in terms of their ability to reduce potential project-related air quality impacts to a level of insignificance.

h. Background information on greenhouse gasses, emission sources and generation rates, and regulations relating to reducing emissions of greenhouse gasses will be presented.

i. The proposed project will be evaluated for consistency with the County of San Luis Obispo "Energywise" CAP. If the project is found to be consistent with the CAP, no significant impacts will result. If the proposed plan is found not to be consistent with the CAP, potential mitigation measures in order to achieve project consistency with the CAP will be provided. If it is found that the project is not consistent with the CAP and there are insufficient feasible measures to make the project consistent with the CAP, the CalEEMod model will be used to project the primary GHG emissions from project remediation and construction activities as well as long term operational emissions associated with the project.

j. Remediation and construction emissions will be amortized over the project lifespan (25 years) per the SLOAPCD CEQA Guidelines and added to the projected annual operational emissions. These combined emissions will be compared with the SLOAPCD significance threshold for development projects of 1,150 metric tons per year or 4.9 metric tons per year per service population.

3) Biological Resources - The impacts of the proposed project upon any significant biological resources, with particular attention to impacts upon the existence or potential existence of any sensitive biological resources, will be analyzed. Included within the scope of this proposal is the provision of a Biological Resources Assessment provided by the firm of Althouse & Meade. Their analysis of impacts upon biological resources will include the following elements:

a. A peer review of existing biological resources information relevant to the project site including the previously-prepared biological assessments prepared by David Wolff Environmental in 2003 through 2005 will be performed in order to determine whether such information will be useful in the following analysis of biological resources.

b. Based upon this existing information combined with a walkover survey of the site, all rare, threatened, endangered and sensitive plant and animal species present or expected to occur within the area to be developed or that may be affected by the project will be verified. Site surveys will focus on areas containing potential sensitive biological resources such as wetlands, oak and riparian woodlands, coastal bluffs and all protected species associated with these sensitive habitats. These habitats and their associated protected species will be mapped. These surveys do not involve protocol-level surveys for State or Federally-listed species. Field

verification of sensitive biological resources will focus on areas to be directly or indirectly affected by the proposed project.

c The existing conditions of the site will be described based primarily upon the results of the field biologist's site visit with any relevant information contained within existing mapping of the biological resources present on the property.

d. Based upon the above information, any potential constraints related to biological resources will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

e. Site specific significance criteria will be developed pursuant to CEQA and County standards for use in the impact analysis. Sensitive biological resources including potential habitat for any sensitive species will be identified. The California Department of Fish and Game and the U.S. Fish and Wildlife Service will be consulted in order to insure that agency issues and concerns are identified and addressed.

f. The proposed project will be evaluated in terms of the potential impacts of both short-term construction activities and long-term project operations upon on and off-site biological resources including, but not limited to, wetlands, oak and riparian woodlands, coastal bluffs and all protected species associated with these sensitive habitats. Secondary biological impacts resulting from any off-site improvements will also be identified. In addition, cumulative impacts upon the area's biological resources including but not limited to the sensitive habitats noted above, threatened and/or endangered species and existing wildlife migration corridors resulting from the proposed project will be identified.

g. All comments received from public agencies, including but not limited to the California Department of Fish and Game and the U.S. Fish and Wildlife Service, and the general public concerning potential impacts to biological resources will be reviewed.

h. Feasible mitigation measures to minimize potential impacts to biological resources will be provided. These recommendations may include, but are not limited to: conducting nesting bird surveys prior to grading/ground disturbance activities, conducting nesting bird surveys if grading and construction occurs during breeding season, replacement of all oak trees removed as a result of project development, provision of a detailed plan indicating all on-site trees to be either removed or within 50 feet of project construction activities and implementation of a Tree Protection Plan prior to project grading.

4) Cultural Resources – The impacts of the proposed project upon any significant cultural resources, with particular attention to impacts upon the existence or potential existence of any sensitive cultural resources, will be analyzed. Included within the scope of this proposal is the provision of a Cultural Resources Assessment provided by the firm of Cultural

Resources Management Services (CRMS). Their analysis of impacts upon cultural resources will include the following elements:

a. A peer review of existing cultural resources information relevant to the project site including the previously-prepared archaeological field surveys and assessments prepared by Gibson's Archaeological Consulting between 1992 and 2010 will be performed in order to determine whether such information will be useful in the following analysis of biological resources.

b. Based upon the peer review of this prior analysis combined with results of previously-conducted archival records searches conducted for the property, a description of existing site conditions as well as an analysis of the potential project impacts upon cultural resources will be provided.

c. Based upon the above information, any potential constraints related to cultural resources will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

d. All comments received from public agencies and the general public concerning potential impacts to cultural resources will be reviewed.

e. Feasible mitigation measures to minimize impacts to cultural resources will be provided. These recommendations may include, but are not limited to, provision of Archaeological and Paleontological Monitoring and Recovery Plans. These measures will be evaluated in terms of their ability to reduce potential project-related impacts to cultural resources to a level of insignificance.

5) Geology and Soils – The impacts of the proposed project upon geology, soils and hydrogeologic conditions will be analyzed. Included within the scope of this proposal is the provision of a Geology/Soils/Hydrogeology Analysis provided by the firm of Fugro Consulting, Inc. Their analysis of impacts upon geology, soils and hydrogeologic conditions will include the following elements:

a. A peer review of existing geologic, soils and hydrogeologic information relevant to the project site including an extensive number of studies and monitoring reports prepared by several consultants between 1997 and 2012 related to on-site soil and groundwater characteristics and associated health risks will be performed in order to determine whether such information will be useful in the following analysis of geology, soils and hydrogeologic conditions.

b. Aerial photographs will be examined and interpreted and existing documentation related to fault displacement, ground shaking, landslides and slope stability, liquefaction, naturally occurring mineral (radon and asbestos) hazards and expansive soils will be consulted and analyzed.

c. Based upon the above information, any potential constraints related to geologic and soils resources will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

d. Potential impacts associated with the geologic, soils and hydrogeologic conditions noted above will be assessed. Consultation with the County Departments of Planning and Building and Public Works concerning potential project impacts, adequacy of mitigation measures, etc. will be provided.

e. All comments received from public agencies and the general public concerning potential geology and soils impacts will be reviewed.

f. Feasible mitigation measures to minimize potential impacts to geology and soils will be provided. These recommendations may include, but are not limited to, provision of setbacks from existing faults, building foundation reinforcement or avoidance of other soils and geology constraints.

6) Hazards and Hazardous Materials – The impacts of the proposed project upon potential exposure to hazards and hazardous materials will be analyzed. Included within the scope of this proposal is the provision of a Hazards and Hazardous Materials Analysis provided by the firm of Fugro Consulting, Inc. Their analysis of impacts associated with potential exposures to hazards and hazardous materials will include the following elements:

a. A peer review of the Asbestos and Lead Paint Studies of existing buildings within the Avila Point project site currently being prepared by the project applicant will be performed in order to determine whether such information will be useful in the following analysis of impacts associated with hazards and hazardous materials.

b. Existing site condition reports, maps, and other available data for the Avila Point site, as well as in-house studies will be reviewed by the licensed geologists and engineers, environmental professionals, water resource specialists and toxicologists at Fugro Consulting, Inc.. Technical review by these experts will be focused on developing a list of key site indicators for geologic formations (soil and rock type, permeability), presence and movement of surface and groundwater, source areas of groundwater and surface water recharge and discharge, contaminants of concern in the soil (volatile and non-volatile), contaminants of concern in water (volatile and non-volatile), historic site use (pipelines, tanks, refinery activities) and potential risks of exposure based on proposed site reuse.

Based upon the above information, any potential constraints related to hazards and hazardous materials will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

c. Risks posed to human and ecologic receptors based on proposed future land uses will be analyzed. Land-use specific chemical target levels will be developed for risk drivers will be evaluated.

d. A database to categorize and sort key site indicators respective to their location at the site and process the data to identify constraints which may impact the type of remedial technologies which are proposed and mitigation measures required will be developed.

e. Site Constraint Conceptual maps will be utilized to summarize the data with respect to geologic and/or hydrogeologic contamination and toxicological conditions which may impact the selection of remedial technologies and mitigation measures.

f. The Project Development Plan and Project Description developed through the EIR process will be reviewed in order to assess and comment on potential environmental impacts, data inconsistencies, and constraints.

g. All comments received from public agencies, including but not limited to the California Department of Toxic Substances and the Regional Water Quality Control Board, and the general public concerning potential hazards and hazardous materials impacts will be reviewed.

h. Possible mitigation measures for the proposed remediation and redevelopment plans will be developed. An assessment of the remaining impacts following implementation of mitigation measures will also be provided. Additional mitigation measures to minimize potential hazards and hazardous materials will be provided. These recommendations may include, but are not limited to, proper notification and removal of asbestos or lead-containing structures or soils and proper re-use or removal of the on-site fuel tanks.

7) Noise – The impacts of the proposed project upon existing noise conditions will be analyzed. Included within the scope of this proposal is the provision of a Noise Assessment provided by the firm of Mestre Greve Associates. Their analysis of impacts upon existing acoustical conditions will include the following elements:

a. The existing noise environment in the project vicinity will be described based upon noise measurements taken at a maximum of four locations in the vicinity of the project site as well as using the FHWA highway noise model ("FHWA Highway Traffic Noise Prediction Model," FHWA-RD-77-108) in order to estimate existing and future traffic noise levels. Community noise standards relevant to this project as contained in the County of San Luis Obispo Noise Element of the General Plan, the County Noise Ordinance and the Avila Beach Specific Plan will be consulted. These standards will be summarized and their relevance to the project discussed. Existing noise levels will be articulated in terms of the CNEL (Community Noise Equivalent Level). CNEL is used by the County of San Luis Obispo to assess community noise impacts.

b. Based upon the above information, any potential constraints related to existing noise conditions will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

c. The assessment of potential noise impacts can be divided into short-term construction noise, project-generated traffic noise, project-related noise impacts upon nearby noise sensitive receptors and off-site noise/land use compatibility. Short-term noise impacts such as those associated with the types of equipment to be used during site remediation activities and subsequent project construction and their corresponding noise levels will be evaluated. Control of construction noise through the application of the County Noise Ordinance will be discussed. The noise impacts associated with project-generated traffic on adjacent land uses will be assessed in terms of the CNEL noise scale. Areas that will experience a significant noise increase will be identified. The future noise levels experienced in these areas after project development will be determined and the resulting land use/noise compatibility discussed. Potential noise impacts from on-site activities on nearby uses will also be analyzed. Noise levels generated by activities proposed by the project will be examined relative to their potential impacts upon any noise sensitive uses in the area. Where potential impacts are identified, specific noise levels will be estimated and impacts quantified. Compatibility of the noise generated by on-site activities with existing adjacent uses will be discussed based upon standards within the County Noise Ordinance.

d. All comments received from public agencies and the general public concerning potential noise impacts will be reviewed.

e. Feasible mitigation measures to minimize potential noise impacts will be provided. These recommendations may include, but are not limited to, provision of noise barriers in the form of berms or setbacks and construction noise abatement measures such as restricted hours of operation and noise mufflers on construction equipment. These measures will be evaluated in terms of their ability to reduce potential significant project-related noise impacts related to a level of insignificance.

8) Public Services and Utilities – The impacts of the proposed project upon existing public services and will be assessed. The analysis of project impacts related to public services and utilities will include the following elements:

a. Current public services (i.e. law enforcement, fire protection, utilities and solid waste disposal) serving the project site including the existing facilities, the current demands for these services and any services deficiencies currently being experienced will be identified. This identification will also include existing utility lines in the vicinity of the project site and the extent of other services being provided.

b. Increased service demands associated with the proposed project including the amount of energy to be consumed and the amount of solid waste generated during both project construction and operation will be calculated.

c. Consultation with the law enforcement and fire protection authorities will be conducted in order to determine their ability to respond to the increased public services demands associated with the proposed project. Any significant impacts to these public services and utilities will be identified. The need for any additional public service and utility facilities will also be identified.

d. All comments received from public agencies and the general public concerning potential public services and utilities impacts will be reviewed.

e. Feasible mitigation measures to minimize potential impacts to existing public services and utilities will be provided. These recommendations may include, but are not limited to, project design elements to enhance police surveillance and fire protection, design of proper solid waste enclosures and implementation of solid waste recycling and energy conservation programs.

9) Recreation – The impacts of the proposed project upon existing recreational uses and facilities will be assessed. The analysis of project impacts related to recreation will include the following elements:

a. Existing recreational facilities serving the project area will be identified and whether there is a current deficiency of recreational opportunities in the area will be discussed.

b. The project's future demand on both on- and off-site recreational opportunities and whether on-site recreational facilities will adequately offset the demand upon off-site recreational facilities will be assessed.

c. Consultation with the County Parks and Recreation Division will be provided in order to fully determine the ability of on- and off-site recreation facilities to respond to project demands.

d. Design plans for proposed on-site trails will be evaluated in order to determine the degree of public use and public benefit. The adequacy of the connection of the proposed on-site trails to existing off-site recreational facilities will also be assessed.

e. All comments received from public agencies and the general public concerning potential impacts upon existing recreational facilities will be reviewed.

f. Feasible mitigation measures to minimize the potential recreation impacts will be provided. These recommendations may include, but are not limited to, the provision of additional or reconfigured on-site trails or other recreational facilities and/or dedication of trail easements to insure their future public use.

10) Traffic and Circulation – The impacts of the proposed project upon traffic and circulation conditions will be analyzed. Included within the scope of this proposal is the provision of a Traffic and Circulation Analysis provided by the firm of Central Coast Transportation

Consulting. Their analysis of impacts upon traffic and circulation conditions will include the following elements:

a. The existing conditions of the transportation system in the study area will be analyzed. A preliminary list of study intersections and roadway segments includes, but may not be limited to, the intersections of Avila Beach Drive/San Luis Bay Drive, Avila Beach Drive/Cave Landing Road, Avila Beach Drive/Project entry, Avila Beach Drive/Shell Beach Road and San Luis Bay Drive/Ontario Road and the segments of Highway 101 north of San Luis Bay Drive and south of Avila Beach Drive and Avila Beach Drive west of San Luis Bay Drive.

b. Given the nature of resort developments and Avila Beach's attraction as a tourist destination, the peak traffic conditions would likely occur during summer weekends. Traffic counts will be collected at up to five locations which will be utilized to verify existing traffic data to the maximum extent possible. Study intersections will be evaluated using Synchro software for weekend peak hour conditions. Study roadway segments will be evaluated using average daily traffic (ADT) volumes. Existing parking availability in the study area will also be evaluated. Collision rates on roadways in the study area will be documented and compared with the collision rates at high-collision locations at similar facilities in the County, Caltrans District 5 and Statewide. Field visits will be conducted to insure that the results of the Constraints Analysis accurately reflect field conditions.

c. A peer review of the Egress/Ingress Traffic Study currently being prepared by the project applicant will also be performed in order to determine whether such information will be useful in the following analysis of traffic and circulation impacts.

d. Based upon the above information, any potential constraints related to existing traffic and circulation conditions will be identified in order to assist in the preparation of the Constraints Analysis discussed in Task 2 within the above description of the Scope of Work.

e. The proposed development plan will be reviewed in relation to the Avila Beach Specific Plan in order to determine the extent to which the project conforms to the Plan. This review will include issues related to vehicular, pedestrian, bicycle, public transit and parking. The project may also include elements that are not addressed in the Specific Plan, such as the use of neighborhood electric vehicles or golf carts on public roadways. Review of these issues and recommendations in the form of development standards will be provided as necessary.

f. The project's remediation phase will consist of the removal and cleanup of industrial infrastructure remaining from the prior tank farm operations. Remediation activities may include the excavation and transportation of contaminated soils and infrastructure to off-site disposal locations and importation of clean soils if none are available from on-site borrow locations. The traffic expected due to site

remediation, including workers traveling to and from the site, mobilization of heavy equipment, and off-site hauling of material will be calculated. These calculations will apply an equivalency factor to convert heavy vehicles to their passenger car equivalent and will include an estimate of peak daily and hourly traffic expected during the highest intensity of activities. CCTC will review the proposed site access points to ensure they meet the applicable standards for sight distance and would allow for adequate acceleration and deceleration distance. On-site staging areas, truck routes to and from the planned waste disposal sites and proposed employee parking will also be evaluated. The assessment of impacts will be based upon County and Caltrans significance criteria.

g. Project development will generate peak hour traffic during the busy summer weekend periods, potentially impacting the local roadway network. Transportation impacts associated with the development of the project site will be based upon trip generation estimates for the project. While the potential future uses of the Avila Point site are included in ITE's *Trip Generation Manual* (under the Resort Hotel land use), it may be necessary to modify these rates to reflect site specific conditions (such as the car-free design) and other ancillary uses planned as a part of the project. Trip generation and distribution estimates will be developed in consultation with County staff.

h. Potential impacts to vehicles, bicycles, pedestrians, transit, and parking will be analyzed in accordance with County and Caltrans criteria. Emergency access to the site will be addressed along with a review of the project's consistency with the Diablo Canyon Emergency Evacuation Plan. The project's contribution to the County Road Maintenance Fund will also be calculated.

i. Future year forecasts to reflect Cumulative Conditions both with and without the project will be developed. The precise cumulative conditions forecasting methodology will be determined in consultation with County staff. Potential forecasting resources include the Avila Traffic Model, the SLOCOG Travel Demand Model, a project list approach or some combination of these forecasting methods. All applicable local and State agencies will be contacted in order to secure information on planned roadway improvements expected to be in place under the cumulative conditions scenario.

j. All comments received from public agencies including, but not limited to Caltrans, and the general public concerning potential traffic and circulation impacts will be reviewed

k. Mitigation measures will be identified in order to reduce or eliminate potentially significant project impacts. These measures may include, but are not limited to, restrictions on the timing of vehicles hauling soils or construction materials, the timing of employee shifts, designation of specific truck haul routes, designation of specific parking areas for employees and contractors, limitations on the size of special events and potential roadway improvements.

l. Project alternatives will be qualitatively evaluated to determine if their impacts would be equal to, greater than, or less than those of the proposed project. Project alternatives that are capable of reducing potentially significant transportation impacts will be identified and evaluated. These project alternatives are considered to be particularly significant to the County's consideration of the proposed project.

11) Wastewater – The impacts of the proposed project upon existing wastewater transmission and treatment facilities will be assessed. The analysis of wastewater impacts will involve the following elements:

a. Existing wastewater generation and facilities capacities (both pipelines and treatment facilities) in the area and any current deficiencies currently being experienced will be identified.

b. Wastewater generation associated with the proposed project and whether these demands exceed the service capabilities of the existing transmission and treatment facilities.

c. Consultation with the Avila Community Services District, the Regional Water Quality Control Board and the County Department of Environmental Health will be provided in order to fully determine the service ability of existing and future wastewater transmission and treatment facilities. Any significant impacts to the wastewater service capacity as well as the need for additional transmission facilities or treatment capacity will be identified.

d. All comments received from public agencies, including but not limited to the Avila Community Services District, and the general public regarding potential wastewater impacts will be reviewed.

e. Feasible mitigation measures to minimize potential wastewater impacts will be provided. These recommendations may include, but are not limited to, provision of additional transmission facilities, payment of fees for additional treatment capacity and project design measures to reduce wastewater generation

12) Water – The impacts of the proposed project upon existing water supply facilities will be assessed. The analysis of project impacts upon water will involve the following elements:

a. Existing water supply and transmission facilities in the area and any water supply allocations assigned to the project site will be identified.

b. Water supply demands associated with the proposed project will be provided and whether these demands exceed the current District allocations and groundwater availability assigned to the subject property will be determined.

c. Consultation with the Avila Community Services District will be provided in

order to fully determine the sufficiency of water supply and transmission facilities necessary to serve the proposed project.

d. All comments received from public agencies, including but not limited to the Avila Community Services District, and the general public regarding water impacts will be reviewed.

e. Mitigation measures to minimize potential water impacts will be provided. These recommendations may include, but are not limited to: project design measures to minimize water consumption. These measures will be evaluated in terms of their ability to reduce potential project-related impacts related to water to a level of insignificance.

13) Land Use and Planning – The impacts of the proposed project upon land use and planning issues will be assessed. This analysis of project impacts upon land use will involve the following elements:

a. A detailed inventory and aerial mapping of land uses adjacent to the project site will be provided.

b. The direct impacts of project development as currently proposed upon the 95 acre project site will be assessed.

c. The impacts of the proposed project upon adjacent land uses will be assessed. The issue of land use compatibility will be analyzed based upon the variety of surrounding land uses and their unique issues. The proposed project's land use compatibility will be evaluated in relation the existing community of Avila Beach to the west, open space, residential uses, recreation uses (Pirate's Cove) and Highway 101 to the east, Cave Landing Road and vacant open space to the north and Avila Bay to the south.

d. Although several of these land use compatibility issues will be discussed elsewhere in the EIR, these issues will also be addressed in total within the Land Use section of the document in order to provide a complete overview of land use compatibility issues within a "stand-alone" analysis.

e. An analysis of the consistency of the proposed project with applicable plans, ordinances and policies will be provided. The project site is located in the San Luis Bay Coastal Planning Area and the Avila Beach Specific Plan Area. The proposed project land uses will be dictated by the Recreation land use designation proposed for the project site. Relevant documents to be reviewed include, but may not be limited to, the Avila Beach Specific Plan, the County Land Use Ordinance, the San Luis Obispo County Framework for Planning and the APCD Clean Air Plan.

f. All comments or correspondence received from public agencies as well as the general public concerning land use impacts will be reviewed.

g. Feasible mitigation measures to minimize potential land use impacts will be provided.

14) Cumulative Impacts - The cumulative impacts of the proposed project in relation to other existing or proposed land use entitlements or development plans in the project area will be analyzed. These cumulative impact assessments will include, but are not limited to, impacts upon land use, regional groundwater resources, utilities and services, air quality, biological resources, traffic and circulation, cultural resources and other cumulative environmental factors influenced by the project. Measures to reduce these cumulative impacts, where available, will also be provided.

15) Alternatives - The Draft EIR will present alternatives to the proposed project which are capable of reducing or eliminating significant environmental impacts. A reasonable range of alternatives to the proposed project that could feasibly attain the basic project objectives will be provided. The analysis of project alternatives will also identify the environmentally superior project alternative(s).

The analysis of each project alternative will commence with a description of the proposed alternative accompanied by a graphic illustrating the alternative. The impacts associated with each alternative will be identified and discussed. Impacts of each alternative will then be compared to the significant adverse impacts associated with the proposed project. A summary delineating the ability of the various project alternatives to reduce or eliminate significant adverse environmental impacts will be provided. Alternatives to the proposed project will also be evaluated in relation to their ability to meet the objectives of the proposed project.

In the case of this project, the provision and analysis of project alternatives is considered to be particularly important in that these alternatives must be capable of providing guidance to the County of San Luis Obispo, as Lead Agency, in the consideration of approval of any proposed project or a revised project design, timing, etc. Given the potential constraints associated with the site combined with the need to reduce potentially significant project impacts, these alternatives are considered to be critical in the County's evaluation of the proposed project and the goal of reduction of potential project impacts to a level of insignificance

The project alternatives to be evaluated in the Draft EIR will include, but are not limited to, the following: 1) the No Project Alternative; 2) Project alternative(s) involving a redesigned project which avoids or mitigates identified significant environmental impacts associated with the proposed project (such as revised project land uses, building locations or roadway configurations); 3) Project alternative(s) involving a reduction in the size or intensity of the proposed project or portions of the project in order to avoid or mitigate identified significant environmental impacts; 4) Alternative project phasing where the timing of project development is tied to the elimination of identified environmental or infrastructure constraints); 5) Alternative land uses; 6) Alternative project sites and 7) other alternatives resulting from project review by the County or other involved parties.

16) Growth-Inducing Impacts – The growth inducing aspects of the proposed project can be varied and potentially significant. The potential for the proposed project to hasten the conversion of surrounding areas to more intense, urbanized land uses over those which currently exist will be examined. The evaluation of growth-inducing land use impacts within the Draft EIR will address the potential for the proposed project to foster growth or changes in areas surrounding the project site. Specific areas susceptible to potential growth inducing impacts associated with the proposed project will be identified. Potential growth-inducing impacts on utility systems, off-site commercial services and other land use issues will also be examined. Analysis of project-related growth-inducement shall consider the following elements: 1) removal of any impediments to growth such as the extension of roadways or utilities; 2) the creation of development pressures in surrounding areas, particularly existing agricultural lands; 3) growth-inducing impacts upon community services and 4) the establishment of any precedent-setting effects upon parcels with similar land use designations or parcels situated in similar locations within the County or with similar constraints. The indirect growth-inducement of the proposed project on existing and/or future land use entitlements or development plans in the area will also be discussed. Any mitigation measures or project alternatives capable of reducing these growth-inducing impacts will be identified.

C. Coordination With Lead Agency

As a consultant to the County, our firm recognizes the need for maintaining a close working relationship and for close consultation and coordination with the County of San Luis Obispo who will be serving as Lead Agency on this project. It is our goal to serve as an extension of County staff not only throughout the preparation of the various documents noted above but particularly during our project coordination efforts and representation at project meetings and public hearings. As noted throughout this proposal, we anticipate working closely with the County's Environmental Coordinator throughout this process. Below is a listing of those elements of this proposal and aspects of our firm's background and experience which will insure adherence to this goal.

1) As noted in Section II, Scope of Work of this proposal, our firm will assist County staff in preparing and processing this proposed environmental documentation. At the outset of this effort (Task 9 of our Scope of Work), we will prepare and present a step-by-step coordination program to the County's project Environmental Coordinator to insure timely and efficient completion of all project tasks and phases.

2) Our firm's experience in the Avila Beach area through preparation and processing of the Harbor Terrace EIR, the Avila Schoolhouse Initial Study and the Diablo Canyon Power Plant, Analysis of Emergency Evacuation Plan as noted in Section IV. Related Background of this proposal will provide valuable assistance to County staff due to our firm's experience with the unique characteristics and issues associated with the project site and the Avila Beach area. This experience has provided our firm with a unique and valuable perspective on the potential impacts, available mitigations and project alternatives to be considered in this EIR.

3) Our firm's experience with projects involving remediation of contaminated soils and groundwater, major pipeline/infrastructure projects, projects requiring major design input, projects involving Native American issues and coordination and large master plan developments as discussed in Section IV. Related Background of this proposal, will provide assistance in the completion of all project tasks and phases as well as providing valuable insight into responding to several of the potentially significant impacts associated with the proposed project.

4) We have provided within our proposed Scope of Work (see Task 9) for attendance at fifteen (15) meetings with the County Environmental Division and various outside agencies or other persons or groups deemed appropriate by the County. These meetings are intended to insure continual contact between our firm and the Environmental Coordinator. We feel strongly that this number of meetings will insure close contact between the County and their environmental consultant.

5) In addition to these meetings, we have also provided for representation at six (6) public hearings before the County Planning Commission, the County Board of Supervisors or any other group pursuant to the direction of the County Environmental Coordinator as well as a Public Scoping Meeting (see Task 10). Preparation for these public meetings and hearings will also involve close contact and coordination with the County Environmental Coordinator.

6) Douglas Wood & Associates, Inc. is proud of our record of maintaining a consistently high level of principal involvement throughout all phases of projects for which we are under contract. We will not place inexperienced personnel in charge of a project. In order to adhere to this goal, our firm does not assume more work then it can do well. As a result of this policy, the Lead Agency benefits from the over seventy-two years combined experience and expertise of the principals of our firm. This expertise will be reflected in the contents and production of the Draft and Final EIR as well as during our representation efforts at project meetings and public hearings.

7) Members of our subconsultant team possess experience with similar projects within the the Avila Beach area and throughout the County of San Luis Obispo. This background, as noted in Section IV. Related Background of this proposal, will enhance our ability to maximize consultation for and coordination with the County staff.

III. PROJECT ORGANIZATION AND STAFFING

The firm of Douglas Wood & Associates, Inc. is recognized by many governmental agencies and within the business community as an environmental consulting firm which offers the highest level of professional expertise and technical capability. Established in 1983, Wood & Associates is known for its high level of principal involvement and commitment to handle each project as if were its own. With over sixty-two years combined experience in the preparation of environmental documents, the expertise of the principals of Wood & Associates can save time and money while providing the highest level of professional environmental consulting services.

Pertinent information on the roles to be assumed by various staff members at Wood & Associates to be involved on this project are discussed below.

Mr. Douglas L. Wood, Principal and President of Douglas Wood & Associates, Inc., will serve as overall project manager and coordinator for this effort. His duties will include maintaining direct contact and coordination with the County of San Luis Obispo, as Lead Agency, as well as with the various members of the subconsultant team discussed within this proposal. He will also oversee the production of the Draft and Final Environmental Impact Report and will be involved in the preparation of specific sections of these documents. His involvement will also include, but not be limited to, formulation of required mitigation measures and project alternatives. Mr. Wood will also provide all required representation at project meetings and public hearings throughout the course of this project.

Ms. Pamella Wood, Principal of the firm, will serve as Project Coordinator and will also be involved in document production and review as well as the detailed evaluation of reports received from the various involved subconsultants. We have found that this detailed review insures receipt of a quality product from these sources and maintains a consistency as to the data and conclusions contained in these studies.

Wood & Associates, Inc. is proud of our record of maintaining a consistently high level of principal involvement through all phases of projects for which we are under contract. As a result of this policy, the Lead Agency receives the benefit of their expertise and experience which is reflected in the contents and overall production of the Draft and Final Environmental Impact Report as well as during representation at project meetings and public hearings.

Ms. Paige Anderson, Environmental Analyst, will also be involved in the planning analysis, document production and review efforts as well as providing liaison with the County.

Mr. Joseph Malek, Production Coordinator and Graphic Artist, will be responsible for preparation of and revisions to all graphics and illustrations contained within the Draft and Final Environmental Report as well as other phases of document production. He also specializes in the preparation of visual resource assessments involving the production of photo simulations utilizing baseline images with overlays of proposed structures, roadways, etc. as well as applied images of proposed mitigation measures including but not limited to landscaping, berms and setbacks.

Resumes of staff members of Wood & Associates, Inc. are included in Appendix A of this proposal.

In addition to the staff members of Wood & Associates noted above, several specialized subconsultants will be utilized in the completion of this Draft and Final Environmental Impact Report. These consultants and their respective areas of expertise are listed below:

Althouse & Meade (Biological Resources)
Central Coast Transportation Consulting (Traffic and Circulation)
Cultural Resource Management Services (CRMS) (Cultural Resources)
Fugro Consultants, Inc. (Geology and Soils/Hazards/ Hydrogeologic Resources)
Mestre-Greve Associates, Inc. (Noise and Air Quality/Greenhouse Gas Assessment)

The scope of work performed by each of these subconsultants is discussed in Section II.B, Environmental Analysis of this proposal. Copies of their work proposals are included in Appendix B to this proposal.

Resumes and pertinent background of the various members of this subconsultant team are included in Appendix C to this proposal.

IV. RELATED EXPERIENCE

Douglas Wood & Associates, Inc. has provided a full range of environmental services to our clients for the past thirty-one years. Members of our staff have been involved in the preparation of over two hundred constraints analyses, specific plans and environmental impact reports throughout the State of California. Mr. Douglas Wood, Principal and President of the firm, possesses over thirty-nine years experience in the preparation and processing of land use plans and environmental documents. His professional background includes experience in both the private and public sectors and has included direct involvement in all phases of development planning, design, and processing. Ms. Pamella Wood, Principal of the firm, possesses over thirty-three years experience in the preparation and review of environmental documents and other planning studies. Copies of their resumes are included in Appendix A of this proposal.

We have successfully secured environmental approvals, certifications and clearances from local agencies throughout the State of California. Included in these efforts has been involvement in the preparation of specialized biological, archaeological, paleontological, geologic, hydrologic, traffic circulation, fiscal, air quality, and acoustical surveys through our subconsultant team as well as interface with a variety of local, State and Federal regulatory agencies. Provided below is a list of representative projects and/or projects of a similar nature which have been completed by our firm and by our subconsultant team.

A. Douglas Wood & Associates, Inc.

Douglas Wood & Associates, Inc. possesses extensive experience in the preparation of comprehensive EIR's for large, multi-phased projects with a complexity of significant environmental issues similar to those associated with the proposed project. Throughout these efforts, our firm has demonstrated an ability to find feasible solutions to environmental challenges and to build a consensus with public agencies, private landowners and members of the public.

Several of these representative projects noted below underscore our firm's capabilities in a variety of areas that are of particular importance to the preparation and processing of the proposed Avila Point project. The particular qualifications with examples are listed below followed by a detailed description of each of these projects:

Experience in the Avila Beach Area

- Harbor Terrace EIR (Lead Agency: Port San Luis Harbor District)
- Avila Schoolhouse Initial Study (Lead Agency: County of San Luis Obispo)
- Diablo Canyon Power Plant, Analysis of Emergency Evacuation Plan (Lead Agency: Port San Luis Harbor District)

Experience with Remediation Projects

- Potrero Creek Specific Plan EIR (Lead Agency: City of Beaumont)
- Burbank B-1 Site Soil Remediation Project EIR (Lead Agency: City of Burbank)

Experience with Major Pipeline/Infrastructure Projects

- Nipomo Community Services District Waterline Intertie EIR (Lead Agency: Nipomo Community Services District)
- Nipomo Community Services District Southland Wastewater Treatment Facilities Improvements EIR (Lead Agency: Nipomo Community Services District)
- Sphere of Influence Update/Municipal Services Review, Nipomo Community Services District EIR (Lead Agency: San Luis Obispo Local Agency Formation Commission)
- Maria Vista Tract, Water and Sewer Line Extensions Initial Studies (Lead Agency: Nipomo Community Services District)
- Banning Bench Specific Plan, Water Supply Assessment (Lead Agency: City of Banning)

Experience with Projects Requiring Major Design Input

- Willow Road Extension and Highway 101 Interchange EIR (Lead Agency: County of San Luis Obispo)
- Harbor Terrace EIR (Lead Agency: Port San Luis Harbor District)
- Banning Bench Specific Plan EIR (Lead Agency: City of Banning)
- Potrero Creek Specific Plan EIR (Lead Agency: City of Beaumont)
- Johnson Ranch Specific Plan EIR (Lead Agency: City of Temecula)
- Dove Canyon Feature Plan EIR (Lead Agency: County of Orange)

Experience with Projects Involving Native American Issues and Coordination

- Mission Gardens Estates, Draft and Final EIR (Lead Agency: County of San Luis Obispo)
- Nipomo Community Services District Waterline Intertie EIR (Lead Agency: Nipomo Community Services District)
- Nipomo Community Services District Southland Wastewater Treatment Facilities Improvements EIR (Lead Agency: Nipomo Community Services District)

Experience with Large Master Plan Developments

- Chandler Ranch Master Plan EIR (Lead Agency: City of Paso Robles)
- Banning Bench Specific Plan EIR (Lead Agency: City of Banning)
- Potrero Creek Specific Plan EIR (Lead Agency: City of Beaumont)
- Johnson Ranch Specific Plan EIR (Lead Agency: City of Temecula)
- Dove Canyon Feature Plan EIR (Lead Agency: County of Orange)
- Harbor Terrace EIR (Lead Agency: Port San Luis Harbor District)

Provided below is a detailed description of each of the representative projects listed above.

Harbor Terrace, Draft and Final Environmental Impact Report

Our firm was retained by the Port San Luis Harbor District to prepare a Draft and Final Environmental Impact Report for the proposed 42-acre Harbor Terrace project. The proposed

project involved a first phase known as Harbor View Lodge, a development of a 147-unit lodge with a total of 46 cottages. The lodge units would be restricted to short-term, visitor-serving uses. The first phase also included: a) provision of 2.22 acres to be utilized for fisherman's gear storage and as an equipment and materials "lay down" yard for the stockpiling of materials such as pilings for pier repair, etc.; b) preservation of an additional 1.6 acres to be kept open and utilized for concerts, special events including fund raisers, promotions, festivals or other related activities, or for use as an overflow parking area and c) relocation of the existing on-site trailer park to the lower elevations of the project site. The second phase involved the realignment of Avila Beach Drive which would allow the provision of waterfront commercial and recreational uses.

A variety of issues and concerns were addressed in the Draft EIR including: 1) the extent of project grading and landform alteration and the potential impacts of landslides, faults and other on-site geologic constraints; 2) the impacts of project traffic on existing and future roadways; 3) the relationship of project traffic upon the daily operations and/or the emergency evacuation of the Diablo Canyon Nuclear Power Plant; 4) the relationship of project traffic upon peak summer weekend traffic levels in the area: 5) the proposed relocation of the existing on-site trailer park and its reduction to a maximum of 15 trailer spaces; 6) the aesthetic impacts of the project upon views of the site from surrounding areas including Port facilities, the Harford Pier, Avila Beach, and the Harbor; 7) the potential for preservation of on-site vegetative resources (including existing oak trees); 8) the potential risks due to the site's prior use as an area containing petroleum storage tanks; 9) the proposed realignment of roadways adjacent to the project site in order to improve area wide circulation; 10) maintenance and enhancement of coastal access and public use of areas within and adjacent to the project site; 11) the compatibility of proposed project land uses with the existing and future land uses in the areas adjacent to the project site and 12) the potential cumulative or growth-inducing impacts of the proposed project upon adjacent areas or future land use proposals in the vicinity of the project site.

The proposed project also involved an amendment to the Land Use Element of the San Luis Obispo County General Plan and the Local Coastal Plan for the San Luis Bay Planning Area. The project required separate approvals by the County of San Luis Obispo and the California State Coastal Commission.

Our firm was responsible for the preparation of the Draft EIR, the Responses to Comments on the Draft EIR, the Mitigation Monitoring Program and the Findings of Fact/Statement of Overriding Considerations.

Avila Schoolhouse, Expanded Initial Study/ Mitigated Negative Declaration

Our firm was retained by the County of San Luis Obispo to prepare an Expanded Initial Study/Mitigated Negative Declaration for the proposed Avila Schoolhouse Site/Tract Map and Development Plan. The 0.63 acre subject property is located immediately south of San Luis Street and one-quarter mile north of Front Street within the unincorporated community of Avila Beach.

The proposed project involved the provision of a maximum of 15 residential dwelling units on the two parcels and the possible adaptive reuse (restoration) of the existing schoolhouse

structure. The project applicant considered four options for the possible use of the on-site schoolhouse structure. These four development scenarios included: 1) demolition/rebuilding of the schoolhouse at a new location on-site; 2) moving and adaptive re-use of the schoolhouse at a new location on-site; 3) adaptive re-use of the schoolhouse at or near its existing location and 4) development around but not including the schoolhouse structure. The first three of these options included the adaptive re-use of the schoolhouse structure which would contain three residential dwelling units and a 1000 square foot common area.

The subject property was the site of the Avila Schoolhouse since 1903. At that time, a one-room schoolhouse served the Avila Beach community at this location. With the entry of Union Oil to the Avila Beach area, a larger school was needed to serve the growing community. In 1913, the existing two-room Avila School was constructed on this same lot. The two-room schoolhouse was closed in 1966. Later uses of the structure included use of the building for handicapped, mentally disabled and adult education, a museum and a theatre. The schoolhouse structure was the subject of several historic evaluations prepared in 2003, 2005, 2006 and 2007.

Our firm was responsible for review of the various historical evaluations and the preparation of the Expanded Initial Study/Mitigated Negative Declaration.

Diablo Canyon Emergency Response Plan Evaluation

Our firm was retained by the Port San Luis Harbor District to prepare an Evaluation of the Diablo Canyon Emergency Response Plan. The purpose of this report is to evaluate San Luis Obispo County's Emergency Response Plan for Diablo Canyon Nuclear Power Plant in terms of its effectiveness relative to the needs and operations of the Port San Luis Harbor District.

Several events caused the Port San Luis Harbor District to more closely examine San Luis Obispo County's Emergency Response Plan and the Harbor District's ability to fulfill their assigned duties as outlined in the Plan. These events included: the application by Pacific Gas & Electric Company (PG&E) for the issuance of a license to store spent fuel and other radioactive material at Diablo Canyon, heightened awareness as a result of recent terrorist attacks and the Federal review of PG&E's bankruptcy in relation to their ability to build and maintain new storage facilities and operate the power plant. Port San Luis Harbor District has particular and unique interests in events at the Diablo Canyon Nuclear Power Plant in relation to the emergency response plan due to the proximity of Port San Luis to the nuclear facility, the assignment of Harbor District employees as "emergency workers" and the meteorological conditions in the area.

This evaluation analyzed a number of documents to determine the adequacy of the Emergency Response Plan in the event of an emergency at Diablo Canyon Nuclear Power Facility. In addition, this evaluation incorporated the Port San Luis Harbor District's local observations of the Emergency Preparedness Exercise conducted by the San Luis Obispo County Office of Emergency Services on October 23, 2002. This evaluation of the County Emergency Response Plan provided a detailed assessment of the adequacy and reliability of this Plan. This document informed the Port San Luis Harbor District as well as the County Office of Emergency Services as to the needs and operations of the Harbor District in relation to this Plan. Specific recommendations were made in relation to: revising County Office of Emergency Services, Protective Zone Boundaries; updating standard operating procedures relative to both emergency

preparedness and response; updating communications equipment and procedures to be utilized during an emergency response and updating the emergency alert procedures for the Avila Beach area. In addition, an assessment of evacuation times for visitors to and residents of Avila Beach within the plume exposure pathway was also provided. Many of the recommendations contained in this evaluation were incorporated into the County's long-term emergency response procedures.

Our firm was responsible for the preparation of the Evaluation of the Diablo Canyon Emergency Response Plan.

Potrero Creek Specific Plan, Draft and Final Environmental Impact Report

The Potrero Creek Specific Plan contained a total of 11,870 dwelling units, 51 acres of commercial use, four elementary schools and one middle school, two 18 hole golf courses, 212 acres of parks and trails and 6,381 acres of open space on a 9,117 acre project site. The project site was proposed for annexation to the City of Beaumont, who acted as Lead Agency. The project also involved adoption of a Resource Conservation Plan for multi-species preservation and maintenance of regional and local animal migration and riparian corridors. The environmental issues discussed within the environmental documents included: the loss of approximately 1,780 acres of habitat occupied by the Stephens' kangaroo rat, a Federally-Listed Endangered Species; impacts to several other Listed and/or sensitive plant and animal species; maintenance and preservation of local and regional animal migration corridors and riparian corridors; the remediation of soils and groundwater which were contaminated by prior site uses; and the extent of human-related impacts (traffic, noise, air quality, public utilities and services, etc.) associated with a project of this magnitude.

Preparation of the Potrero Creek Specific Plan Draft and Final EIR included extensive work with several involved agencies beyond Lead Agency (City of Beaumont) contact. These agencies included the County of Riverside, the Riverside County Habitat Conservation Agency, the California Department of Fish and Game, the California Department of Transportation, the U.S. Department of Fish and Wildlife, the Riverside County Local Agency Formation Commission, and the Metropolitan Water District of Southern California. Involvement with the California Department of Fish and Game and the U.S. Department of Fish and Wildlife resulted in the identification of elements which were added to the project site plan which will ultimately be required within Section 10 (a) Permits for the taking of Endangered Species. Additional requirements (primarily development setbacks and landscaping) related to requirements of the Section 404 and Section 1601-1603 Permits for Streambed Alteration were also identified and integrated into the project proposal. Contact with the Metropolitan Water District of Southern California was necessary in order to integrate the proposed project with Metropolitan's plans for a regional water storage reservoir in the area. The California Department of Transportation was involved in terms of preliminary design of off-site access roads which ultimately led to state highways. The County of Riverside and County Habitat Conservation Agency were involved relative to the project's impacts upon the Stephens' kangaroo rat. The County Local Agency Commission was involved relative to impacts of the extension of public services to the site and other issues related to annexation of the subject property to the City of Beaumont.

Our firm was responsible for preparation of the Draft EIR, the Responses to Comments on the Draft EIR, a Supplement to the Draft EIR, the Responses to Comments on the Supplement, the Mitigation

Monitoring Program and the Findings of Fact/Statement of Overriding Considerations on this project

Burbank B-1 Site Soil Remediation Project Draft and Final EIR

Our firm was retained by the City of Burbank to prepare a Draft and Final Environmental Impact Report for the proposed Remediation and future development of the 40 acre Burbank B-1 Site owned by Lockheed Martin Aeronautics. The B-1 Site was the location of a jet engine repair and refurbishing plant for approximately twenty years. Over that period, a variety of toxic and hazardous materials were utilized in the repair and cleaning of large jet engines. This plant location was utilized due to its proximity to Burbank Airport where jets could fly in and have their engines detached for servicing. Over that period, a significant amount of toxic and hazardous fluids were disposed on-site in accordance with the governing local and State regulations at that time. However, prior to any re-use of the site, a major remediation program was required in order to remove these pollutants from the soil. The B-1 site was zoned for a Movie Studio use. Project plans for a movie studio were developed as a basis for the environmental documentation. The EIR addressed the impacts of both the Remediation Program as well as the future use of the site as a movie studio.

Our firm was responsible for preparation of the Draft EIR, the Mitigation Monitoring Program, the Responses to Comments on the Draft EIR and the Findings of Fact/Statement of Overriding Considerations.

Willow Road Extension And Highway 101 Interchange, Draft and Final Environmental Impact Report

Our firm was retained by the County of San Luis Obispo to prepare a Draft and Final Environmental Impact Report for the proposed extension of Willow Road and future construction of an interchange at Highway 101 in the unincorporated community of Nipomo. The proposed extension begins at the intersection of Pomeroy and Willow Roads and continues east and northeast approximately 2.5 miles, crosses Highway 101 and continues east to Thompson Road. The Draft EIR assessed the impacts of two alternative alignments for the proposed two-lane extension of Willow Road as well as the impacts associated with two alternative alignments for a proposed frontage road from Sandydale Drive to Summit Station Road.

The general impacts of an interchange connection at Highway 101 and the proposed two-lane extension of Willow Road (from its current terminus to Thompson Road) and the proposed frontage road were the subject of this Draft and Final EIR. This document was aimed at selecting the Willow Road and frontage road alignments as well as the Highway 101 interchange location. Several of the baseline environmental assessments conducted for the Phase/Tier 1 EIR were of sufficient detail and adequacy to be utilized in the Phase/Tier 2 detailed design efforts of the proposed interchange facility.

The cultural resource surveys conducted by our firm revealed the existence of a major Native American prehistoric site (SLO-1620) which was located immediately east of Highway 101 at the location of the proposed freeway interchange. In response to our assessments of the cultural value of

this resource, our firm prepared a redesign of the interchange into an "offset" diamond design. This redesign was approved by Caltrans and ultimately approved by the County Board of Supervisors as the final interchange design.

Nipomo Community Services District Waterline Intertie, Draft and Final Environmental Impact Report

The proposed Nipomo Community Services District Waterline Intertie Project involved the construction and operation of one of three alternative methods for traversing the Santa Maria River with the proposed Nipomo Community Services District Waterline Intertie. Three alternative methods for traversing the Santa Maria River, two involving underground horizontal directional drilling under the Santa Maria River and a third involving attachment of a pipeline to the existing Highway 101 Bridge, were evaluated in this EIR. In order to transport approximately a maximum of 6,300 acre-feet of water per year, the proposed waterline intertie required provision of other infrastructure facilities including storage tanks, pump stations, valves, pipe fittings as well as metering, electrical and communications equipment.

Environmental issues associated with the project included the direct impacts of project construction, particularly to biological and cultural resources and the elimination of a potential constraint (i.e. water supply) to development in South San Luis Obispo County. As a result of the potential impacts of the project upon cultural resources, our firm was responsible for contact and ongoing coordination with representatives of the Chumash tribe.

Our firm was responsible for preparation of the Draft EIR, the Responses to Comments on the Draft EIR, Mitigation Monitoring Program and the Findings of Fact/Statement of Overriding Considerations on this project.

Nipomo Community Services District, Southland Wastewater Treatment Facilities Improvements , Draft and Final Environmental Impact Report

The proposed Nipomo Community Services District Southland Wastewater Treatment Facilities Improvements Project involved the installation of improved treatment facilities and the phasing of additional facilities necessary to upgrade and expand the wastewater treatment capacity of the existing Southland Wastewater Treatment Facility (WWTF). These improvements were intended to expand the future treatment capacity of the Southland WWTF from its current capacity of 0.9 million gallons per day to a maximum flow of 1.8 million gallons per day. These proposed wastewater treatment improvements also involved the provision of several options for the off-site disposal of treated effluent.

Environmental issues associated with the project included the direct impacts of project construction at the treatment facility site, particularly to cultural resources located adjacent to the existing wastewater treatment facility and within areas designated for effluent disposal. Potential direct and indirect impacts to biological resources and recreational opportunities at the sites designated for treated effluent disposal were identified. The elimination of a potential constraint (i.e. wastewater treatment and disposal) to development in South San Luis Obispo County was also analyzed. As a

result of the potential impacts of the project upon cultural resources, our firm was responsible contact and ongoing coordination with representatives of the Chumash tribe.

Our firm was responsible for preparation of the Draft EIR, the Responses to Comments on the Draft EIR, Mitigation Monitoring Program and the Findings of Fact/Statement of Overriding Considerations on this project.

Sphere of Influence Update/Municipal Services Review, Nipomo Community Services District EIR

Our firm was retained by the San Luis Obispo Local Agency Formation Commission to assist in the preparation of the environmental documentation associated with the Sphere of Influence/Municipal Services Review of the Nipomo Community Services District conducted by the Local Agency Formation Commission. The Municipal Service Review (MSR) analyzed the jurisdiction's capability to provide public services to existing and future residents. The Sphere of Influence (SOI) Update was based upon the MSR completed for Nipomo Community Services District by the Local Agency Formation Commission. The SOI update and MSR were prepared to meet the requirements of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. The area studied was within and adjacent to the current service area of the Nipomo Community Services District located in South San Luis Obispo County.

Environmental issues discussed in the EIR included long-term water supply, land use and planning, transportation/circulation, population and housing, air quality and utilities and service systems.

Our firm was responsible for assisting in the preparation and review of the Initial Study, Draft EIR and Responses to Comments on the Draft EIR.

Maria Vista Tract, Water and Sewer Line Extensions, Initial Studies

Our firm was retained by the Nipomo Community Services District to prepare separate Initial Studies for the water line and sewer main extensions to the Maria Vista development (Tracts 1802, 1808 and 1856) located on Santa Maria Vista east of Joshua Street and south of Hutton Road in Nipomo. The proposed twelve inch water supply line was proposed to be extended approximately 2.3 miles (12,300 feet) from the western boundary of Tract 1902 along the alignment of Santa Maria Vista, Joshua Street and Orchard Road to a point of connection of existing District waterlines at the intersection of Orchard Road and Southland Street. Two existing wells, known as the Dana Wells #1 and #2 were also activated, i.e. equipped with pumps and power as part of this project. This sewer main extension ran within the right-of-way of Santa Maria Vista west to Joshua Street and south to Orchard Avenue ultimately connecting to an existing gravity pipeline in Southland Avenue leading to the existing wastewater treatment facility.

Environmental issues included potential impacts to biological resources, adjacent land uses, erosion and sedimentation and traffic circulation.

Our firm was responsible for preparation of two Initial Studies to determine whether these two projects would have a significant impact on the environment.

Our firm was responsible for preparation of the Draft EIR, the Mitigation Monitoring Program, the Responses to Comments on the Draft EIR and the Findings of Fact/Statement of Overriding Considerations.

Mission Gardens Estates, Draft and Final Environmental Impact Report

Our firm was retained by the County of San Luis Obispo to prepare a Draft and Final Environmental Impact Report for the proposed Mission Gardens Estates, located east of Mission Street and south of 11th Street within the unincorporated community of San Miguel.

The proposed project involved a subdivision of 50.61 acres into a 60 lot residential development with lots ranging in size from 6,001 to 11,634 square feet within a 12.41 acre area, a 31.77 acre open space parcel and two remainder parcels of 3.95 and 2.48 acres. Off-site roadway improvements include provision of a two-lane, paved roadway extension from 11th Street south to the project boundary.

Premature site work and improvements occurred during the summer of 2003. During these grading activities, portions of adjacent properties to the west and south, not owned by the applicant, were graded or disturbed. When the activity was noted, the County of San Luis Obispo was informed and issued an order to cease grading. This unauthorized grading had encroached onto two adjacent lots owned by the Diocese of Monterey, areas containing former neophyte dwellings and an orchard, both of which were associated with the historic operation of the Mission San Miguel. The neophyte dwelling is located on the terrace west of and overlooking the subject property with the Mission orchard located to the east and south of the neophyte dwelling area. Both of these areas were graded and topsoil was removed and placed on the project site to the east. Due to its rarity in the State, any structure or resource associated with one of the 21 original missions is considered extremely important. This EIR addressed the impacts of these previously-conducted, unauthorized grading activities as well as the impacts of project development upon cultural resources found within and adjacent to the project site.

Our firm was responsible for preparation of the Draft EIR, the Responses to Comments on the Draft EIR, Mitigation Monitoring Program and the Findings of Fact/Statement of Overriding Considerations on this project.

Chandler Ranch Master Plan, Draft and Final Environmental Impact Report

Our firm was retained by the City of Paso Robles to prepare a Draft and Final Environmental Impact Report for the proposed 672.9 acre Chandler Ranch Master Plan. The Chandler Ranch site is located east of Golden Hill Road, south of Union Road and north of Linne Road within the City of Paso Robles. The City limits form the eastern project boundary.

The Draft and Final Environmental Impact Report presented and analyzed a range of project alternatives which were examined in detail within the Draft and Final Environmental Impact Report. These project alternatives included the following uses of the Chandler Ranch site: 1) development

of the site with a total of 1,226 dwelling units, ranging in density from approximately one to ten units per gross acre, two schools, 20 acres of commercial service use and a 5.1 acre business park. This alternative represents the project applicant's current proposal; 2) development of the site with a total of 256 dwelling units, ranging in density from one dwelling unit per three gross acres to 1.5 dwelling units per gross acre, and two schools. This project alternative reflected the current City General Plan designations applied to the Chandler Ranch site; and 3) maintaining the current open space and recent agricultural uses on the Chandler Ranch site. This Draft and Final EIR identified the potential environmental, fiscal and infrastructure impacts associated with implementation of each of these three project alternatives.

Our firm was responsible for preparation of the Draft EIR, the Mitigation Monitoring Program, the Responses to Comments on the Draft EIR and the Findings of Fact/Statement of Overriding Considerations.

Banning Bench Specific Plan, Water Supply Assessment (WSA)

The proposed Banning Bench Specific Plan was required to have prepared a Water Supply Assessment pursuant to Senate Bill 610 (Chapter 643, Statutes of 2001). Under Senate Bill 610, water supply assessments must be furnished to local governments for inclusion within any environmental documentation, in this case the Environmental Impact Report for the proposed project. The Water Supply Assessment for the Banning Bench Specific Plan was prepared by our firm on behalf of the local water supplier, the City of Banning. This assessment identified the public water systems that may supply water to the project and provided the required data to assure that a sufficient (25 year) supply of water will be available to serve the proposed project.

This Water Supply Assessment analyzed the existing and future water demand, the existing and future water supplies, project water demands and the overall sufficiency of future water supplies. At the time of preparation of this Water Supply Assessment, the City of Banning was completing preparation of the 2005 Urban Water Management Plan. This Urban Water Management Plan contained updated data which provided the basis for many of the conclusions within the Water Supply Assessment. The data contained within the Water Supply Assessment reflected similar information within the City's Urban Water Management Plan in order to insure uniformity between the two documents.

Banning Bench Specific Plan, Draft and Final Environmental Impact Report

Our firm was retained by Loma Linda University to prepare a Specific Plan as well as a Draft and Final Environmental Impact Report for the proposed Banning Bench Specific Plan, located north of Wilson Street and east of Sunset Avenue within the City of Banning, who acted as Lead Agency on the project.

The Banning Bench Specific Plan was a master-planned community, composed of residential, commercial and recreational and open space land uses. The community was designed around an 18-hole championship golf course which was surrounded by residential neighborhoods. A maximum of 944 dwelling units as well as a ten acre Village Office/Commercial Center, a 6.2 acre quasi public use are to contain a church, a post office and a police/fire station, the proposed golf

course/driving range/clubhouse, greenbelts, a community park, an elementary school, mini-parks and open space were developed within a balanced land use plan.

Environmental issues associated with the project included the adequacy of existing and future water supplies necessary to serve the proposed project, off-site traffic impacts and various elements related to the project design.

Our firm was responsible for preparation of the Draft EIR, the Response to Comments in the Draft EIR, the Mitigation Monitoring Program, the Findings of Fact/Statement of Overriding Considerations and an SB 610 Water Supply Assessment (see above).

Johnson Ranch Specific Plan, Draft and Final Environmental Impact Report

The Johnson Ranch Specific Plan consisted of a total of 5,250 dwelling units, 23 acres of commercial use, three elementary schools and one middle school, 61 acres of parks and 252 acres of open space on the 1,761 acre project site. The project site was proposed for annexation to the City of Temecula, who acted as Lead Agency. Major environmental issues discussed within the environmental documents included: provision of open space buffers and corridors which protect and enhance major wildlife preserves adjacent to the project site; preservation of habitats containing the Coastal California gnatcatcher, a Federally-Listed Threatened Species; design compatibility with adjacent residential uses; the cumulative impacts of traffic upon adjacent areas; protection of watersheds impacting adjacent vernal pools and other sensitive resources; and the loss of "prime" agricultural lands.

The on-site field surveys and ensuing biological assessments provided the basis for redesign of the proposed project prior to public hearing consideration. This redesign resulted in the increase in the amount of dedicated open space and the provision of a continuous open space buffer along the project perimeter. This additional open space preserved sensitive on-site resources as well as separating proposed on-site development from surrounding off-site open space areas. These additional open space areas also provided a valuable open space linkage between open space preserves and wildlife migration corridors immediately adjacent to the project site. The proposed project was also modified to provide rural residential and/or open space uses adjacent to existing rural residential land uses along the project boundaries. In response to our biological assessments, the project site plan was also redesigned to eliminate any urban development within watersheds draining to existing vernal pools. These pools were found to contain the Riverside fairy shrimp and the California orcutt grass, both Federally-listed Endangered Species.

The Johnson Ranch Specific Plan Draft and Final EIR included involvement beyond Lead Agency (City of Temecula) contact with the following agencies: the City of Murrieta, the County of Riverside, the Riverside County Habitat Conservation Agency, the California Department of Fish and Game, the U.S. Department of Fish and Wildlife, and the Metropolitan Water District of Southern California. Involvement with the California Department of Fish and Game, the U.S. Fish and Wildlife Service and the Riverside County Habitat Conservation Agency resulted in the site plan revisions noted above. These site plan revisions were also made with the intent of securing Section 10(a) Endangered Species permits as well as Section 404 of the Clean Water Act and Section 1601-1603 Streambed Alteration Permits from these agencies. We also maintained contact

with the City of Murrieta and County of Riverside relative to the determination of the extent of and developer responsibility for the provision of off-site roadway improvements.

Our firm was responsible for the preparation of the Draft EIR, an Addendum to the Draft EIR, the Responses to Comments on the Draft EIR, the Mitigation Monitoring Program, and the Findings of Fact/Statement of Overriding Considerations on this project.

Dove Canyon Feature Plan, Draft and Final Environmental Impact Report - The Dove Canyon Feature Plan involved a total of 1,280 residential dwelling units and a 18-hole championship golf course on a 841 acre project site located within the County of Orange, who served as Lead Agency. The Draft EIR examined and fully mitigated several significant environmental impacts including the land use interface between the proposed project and the adjacent National Audubon Society Bird Sanctuary and the Cleveland National Forest; downstream water quality impacts of the proposed golf course; off-site circulation impacts; and the aesthetic impacts upon adjacent residential development.

Our firm was responsible for the formulation of detailed measures to mitigate project impacts upon the adjacent National Audubon Society Bird Sanctuary and Cleveland National Forest. These measures included: provision of two-strand, smooth wire fencing along the common boundary with the Audubon Society property in order to prevent human intrusion in adjacent areas while permitting wildlife movement; dedication of open space easements; and the provision of downstream runoff detention ponds in order to prevent golf course runoff from being introduced into sensitive riparian habitats downstream of the site. Our firm prepared and was involved in implementation of a Resource Management Plan for the project which, among other elements, involved the successful transplanting and relocation of approximately 105 California live oaks. We also formulated agreements with several adjacent property owners and Community Associations in order to preserve the existing views from vantage points outside the project boundaries. Our involvement also included assistance in the design of the proposed 18 hole Jack Nicklaus Signature golf course.

Our firm was responsible for preparation of the Draft EIR, the Responses to Comments on the Draft EIR, the Mitigation Monitoring Program, and the Findings of Fact/Statement of Overriding Considerations on this project.

B. Subconsultant Team

For the proposed Draft EIR, we anticipate utilizing specialized subconsultants in the following areas: biological resources, transportation and circulation, noise and cultural resources.

BIOLOGICAL RESOURCES

In the area of biological resources, we would propose to utilize the services of Althouse & Meade. This firm's expertise in the area of biological resources management include the preparation of plant, wildlife, and aquatic species inventories, threatened and endangered species surveys, habitat mapping, wetlands delineation, impact assessments, mitigation design and implementation, revegetation/habitat restoration, regulatory compliance and mitigation monitoring. Projects involving this firm which may be of relevance to this proposed are noted below:

City of Grover Beach Train Station Expansion Project - Biological Report prepared for City of Grover Beach, CA. September 4, 2009.

Proposed Pacific Coast Hotel, Grover Beach - Biological Report prepared for Cobalt Construction, Grover Beach, CA. February, 2007.

See Canyon Vesting Tentative Tract Map - Biological Report prepared for Dan Lloyd. See Canyon, CA. February, 2013

Avila Seaside Garden Cottages – Biological Report prepared for Dewey-KOAR, Inc. Avila Beach, CA. April, 2009.

Cross Canyon Vineyard Subdivision: Vesting Tentative Parcel Map 09-0023 - Biological Report prepared for Cross Canyon Vineyard, LLC. Paso Robles, CA. July 2009.

Cold Canyon Landfill: Proposed Expansion - Biological Report prepared for Cold Canyon Landfill. San Luis Obispo, CA. August 2006.

Copies of resumes and other pertinent background pertaining to Althouse & Meade are included in Appendix C of this proposal.

TRANSPORTATION AND CIRCULATION

In the area of transportation and circulation, we would propose to utilize the firm of Central Coast Transportation Consulting (CTCC). Their expertise includes the analysis, planning and design for various types of transportation projects. Projects completed by their firm which may be of particular relevance to this proposal are noted below:

Chevron Tank Farm EIR -This project consists of the remediation and redevelopment of an oil storage facility along Tank Farm Road in San Luis Obispo County. CCTC conducted the technical analysis and prepared the transportation section of the EIR. The evaluation included

estimates of truck traffic related to the transport of contaminated soils and the evaluation of the project's redevelopment in five phases.

Laetitia Agricultural Cluster EIR - This project consisted of the development of an agricultural cluster development in San Luis Obispo County. CTCC's duties included the evaluation of numerous sub-standard roadways and extensive coordination with Caltrans and Cal Fire.

San Luis Obispo Council of Governments (SLOCOG) Model Improvements - This project consisted of updating SLOCOG's regional travel demand model and conducting ongoing maintenance and enhancements to the model. Sample tasks include updating land uses and trip generation rates used in the model, troubleshooting and adjusting the model's processes and improving the model's sensitivity to smart growth development principles.

.

City of San Luis Obispo – CCTC has completed a wide variety of projects for the City of San Luis Obispo. As the City's on-call traffic engineering consultant, CCTC has assisted with safety issues, parking studies, traffic operations and forecasting, peer review of work conducted by others, bicycle and pedestrian planning, and community outreach.

San Luis Obispo Chinatown Mixed Use Project EIR - This project consisted of the redevelopment of a block in Downtown San Luis Obispo, to include a hotel, restaurant, residential units, retail and office space, and underground parking. CTCC managed the project and attended the project's public hearings to address transportation issues.

Orcutt Area Specific Plan EIR - This project involved the annexation of an unincorporated area with the potential for over 900 homes. The project was managed by CTCC and consisted of the preparation of a transportation impact study for use in an EIR

Seaside West Broadway Specific Plan and EIR - This project consisted of the development of a Specific Plan and preparation of the EIR for an urban village concept in Seaside, California. CTCC's scope of work involved extensive data collection, neighborhood outreach, parking studies, a roadway and intersection reconfiguration, planning for pedestrians, transit, and bicycles in addition to motor vehicles and attendance at neighborhood outreach meetings and public hearings. The project received the Transportation Excellence Award from the Transportation Agency of Monterey County, as well as the Neighborhood Planning Award from the NorCal APA.

Menlo Park El Camino Real/Downtown Specific Plan and EIR - CTCC managed the transportation component of the El Camino Real/Downtown Specific Plan, which addressed pedestrian and bicycle connectivity, links to transit, vehicular operations along a Caltrans facility and parking concerns in the downtown. The project included extensive community outreach, including coordinating with breakout groups and responding to the community's questions related to transportation.

The Alameda Parking Study – CTCC's duties included an extensive data collection effort documenting parking supply and demand in the Alameda Business District in San Jose. The

project included substantial outreach to the business community and local residents, provision of projected future parking demand levels in the area and the identification of sites for additional parking. Conceptual design plans were also prepared to more effectively use existing parking lots.

Copies of resumes and other pertinent background information pertaining to Central Coast Transportation Consulting are included in Appendix C of this proposal.

CULTURAL RESOURCES

In the area of cultural resources, we would propose to utilize the services of Cultural Resource Management Systems (CRMS). CRMS has been providing archaeological and cultural resource surveys throughout San Luis Obispo, Santa Barbara, Ventura, and Monterey Counties. During this time, he has been employed by Federal, State, County, and City agencies as well as by private firms and developers and has completed impact studies involving surface and subsurface investigations and cultural resources mitigation projects.

A list of projects completed by Cultural Resource Management Systems which may be of particular relevance to this proposal is provided below:

Monitoring for Southern California Gas Project eTS:2186 - S4645: 3-inch Steel Medium Pressure Replacement, along Anna Bay Drive, Avila Beach -Monitoring was conducted for The Gas Company during the installation of a new gas line within Site SLO-56. Intact midden was discovered in several areas. Additionally, a previously unknown locus of the site was found and recorded.

Phase I Archaeological Survey of Proposed Location for See Creek Park, Avila Beach - A cultural resources literature search and intensive archaeological inventory survey were conducted for a parcel near See Creek. No cultural resources were encountered and archaeological clearance was recommended.

Archaeological Monitoring at Estero Marine Terminal, Cayucos - Monitoring was conducted during the removal of petroleum tanks at the Marine Terminal. No significant resources were discovered.

Archaeological Monitoring for the People's Self Help Housing Construction, Avila Beach - Following an Archaeological Monitoring Plan (AMP) written by CRMS, monitoring was conducted during all phases of grading and trenching at the construction site for the Peoples' Self-Help Housing Corporation. Scattered prehistoric archaeological artifacts and concentrations of historic artifacts were found. These resources were recorded, but none were considered to be significant.

Phase I Archaeological Survey of a 12,269 Square Foot Parcel, at 298 2nd Street, Avila Beach - A cultural resources literature search and an intensive archaeological inventory survey were conducted. No cultural resources were encountered and archaeological clearance was recommended.

Archaeological Monitoring Plan for Mb Project No. Upo-071/cpo-108, Northeast Corner Main Street and Highway 41, Morro Bay - An Archaeological Monitor Plan (AMP) was prepared for Citicom Development and approved by the City of Morro Bay.

Archaeological Assessment for the Upper Salinas River Corridor Enhancement Project, Atascadero and Paso Robles - A records and literature search was conducted for the Upper Salinas-Las Tablas Resource Conservation District for the proposed trail route. Field work was conducted along the entire route, resulting in the identification of potential constraints. The trail was designed to avoid any impacts to archaeological sites.

Archaeological Assessment for Cambria Community Services District Desalination Plant, Cambria - A review of all previous cultural resources investigations within the proposed project area was conducted. This resulted in the recommendation of measures to be undertaken in the event of any soil disturbing activities that might take place during construction.

Constraints Analysis for Update of the Shandon-Carrizo Area Plan, San Luis Obispo County - CRMS provided an assessment of potential constraints to future development posed by historic cultural resources in the town of Shandon and its immediate vicinity. Archival research, visual inspection, and oral interviews were conducted as part of the effort to identify areas where significant historic cultural resources might be present. Further avenues of research were recommended.

Phase II Cultural Resources Survey for Water Transmission Main, Nipomo Regional Park, Nipomo - During an archaeological inventory survey for the water main, a small site was recorded. This phase of the project involved sub-surface testing of the site. The lithic and marine shell concentration was not deemed significant and no further work was recommended.

Archaeological Test Investigations at the Sunset Beach Estates, Shell Beach - A series of shovel test units and 1 x 1 meter control units were excavated. The test found substantial subsurface deposits of marine shell, bone, and lithic materials. Mitigation, to be guided by an approved research design, was recommended.

Cultural Resources Reconnaissance of a +/- 350 Acre Parcel Between the Town of Cayucos and Villa Creek and Between California Highway 1 and the Pacific Ocean - An intensive archaeological survey of the property resulted in the relocation and re-recording of previously known sites, and the recording of several newly discovered sites. All were shell middens that would have been temporary camps on this beach terrace.

Subsurface Archaeological Investigations at 241 El Portal Street, Shell Beach - Subsurface testing revealed no undisturbed archaeological deposits.

Cultural Resources Constraints Analysis For the Nacimiento Water Supply Project - This review of all previous historical and archaeological research within the proposed pipeline alignment, resulted in a document that allowed the County of San Luis Obispo Engineering Department to complete the design of the preferred alignment of the Nacimiento Water Supply Project.

Archaeological Data Recovery at a Portion of CA-SLO-809, Nipomo – A total of 78 cubic meters was excavated during this mitigation excavation. Lithic flaked stone tools and chipping debris, were the primary constituents of the deposit. Groundstone fragments, and scant bone and shell were also found. This site had been a campsite used periodically for short periods of time.

Phase I Archaeological Survey of 125 Indio Drive, Shell Beach - A literature and records search was conducted prior to an intensive archaeological surface inventory. No significant artifacts or features were found and no further investigations were recommended.

Archaeological Monitoring and Test Excavations at Vandenberg Air Force Base, Santa Barbara County - Archaeological monitoring was performed during the installation of a fiber-optics line at VAFB. During the course of the monitoring a previously unrecorded archaeological site was found. Archaeological testing was performed at the site and no further work was recommended.

Archaeological Monitoring at Presidio of Monterey, Monterey County - CRMS provided on-call monitoring services for the removal of underground tanks within an archaeologically sensitive area at the Presidio of Monterey for the U. S. Army Corps of Engineers, Sacramento District. Two separate monitoring episodes were completed, and a report describing the methods, findings and recommendations was submitted.

Phase 1 Cultural Resource Investigation of De Vries Property, Avila Beach – A cultural resources literature search and intensive survey were conducted for a parcel in Avila Beach. No significant cultural resources were encountered.

Cultural Resources Investigation for the Proposed Westside Conveyance System, Ventura and Los Angeles Counties - A literature search, sample intensive survey, and Native American consultation were conducted for alternative water pipeline routes from Castaic Reservoir to Lake Bard; a technical report and constraints analysis was prepared.

Cultural Resources Investigation of Proposed Modifications to Wastewater Facility and Associated Pipeline for Distribution of Reclaimed Water, Goleta, Santa Barbara County - A literature search and field survey were conducted for a proposed pipeline and plant modifications. Potential impacts to several archaeological sites were assessed and recommendations were developed for avoidance or testing of sites. Native American groups were consulted. Input was provided to an EIR and subsequent comments were addressed. The work also included monitoring of geotechnical borings in the vicinity of a significant Chumash village site.

Cultural Resources Investigations for the Inland Feeder Studies, Riverside and San Bernardino Counties – Extensive literature search, involving research at a number of libraries, museums, and archival repositories throughout southern California; sample survey of project alternatives; evaluations of site significance; consultation with Native Americans; sensitivity and impact analysis by link; comparison of alternatives and sub-alternatives; input to Decision

Analysis; coordination with local, state and federal agencies; and preparation of technical report, EIR sections and various maps.

Cultural Resource Management Plan (CRMP) for Bellows Air Force Station, Waimanalo, Ko`olaupoko, O`ahu - The CRMP outlined and assigned responsibilities, identified concerns, and established standard operating procedures for the management of cultural and/or archaeologically significant resources for Bellows Air Force Station. The CRMP was used to assist managers in the planning, development, and implementation of a program tailored to the requirements of specific facilities and land holdings.

Historic Resources of the Garcia Property, a portion of the Coastal Branch, Phase II, California Water Project, Kern, San Luis Obispo and Santa Barbara Counties., CA - CRMS provided the historic context for archaeological and historical field work in the Edna Valley and south San Luis Obispo portions of the pipeline for the Department of Water and Power. Oral historical interviews regarding the historical land use of the valley were conducted in conjunction with this research. Archaeological test excavations and analysis of historic stone structures were also undertaken at the Garcia Ranch, Edna Valley.

Copies of resumes and other pertinent background related to Cultural Resource Management Systems are included in Appendix C of this proposal.

GEOLOGY AND SOILS/ HAZARDS /HYDROGEOLOGIC RESOURCES

In the areas of geology and soils, hazards and hydrogeology, we propose to utilize the services of Fugro Consultants Inc. Projects completed by their firm which may be of particular relevance to this proposal are noted below.

Paso Robles Groundwater Basin Study, County of San Luis Obispo – Fugro Consultants, Inc. prepared a basin study that involved basin definition, groundwater occurrence and movement, water quality, groundwater inventory and modeling. This work was performed under the review of the North County Water Task Force and County Department of Public Works.

Diablo Canyon Power Plant– Fugro Consultants, Inc. has provided geologic and geotechnical services for PG&E's Diablo Canyon Power Plant. Numerous studies related to PG&E's Long-Term Seismic Program and site-specific studies involving development of the on-site spent fuel storage facility have been performed. Fugro also directed an investigation of seismic slope stability for Category I facilities at the power plant and is currently evaluating a recently identified fault directly offshore from the power plant.

CCCSIP Onshore 2D and 3D Seismic Reflection Activities, Diablo Canyon Power Plant– Fugro Consultants, Inc. has provided oversight of collection and processing of two and three dimensional offshore seismic reflection survey data

Ninth Avenue Terminal, Port of Oakland – The U.S. Coast Guard traced a hydrocarbon release in the Oakland Inner Harbor to a diesel tank within the Oakland Ninth Avenue Terminal. Fugro Consultants Inc. performed extensive environmental and risk assessment activities and remediation

planning and provided litigation and cost recovery services at the Port of Oakland's Ninth Avenue Terminal.

GREAT Program Phase I Recycled Water Backbone System –A Phase I Initial Site Assessment and subsequent environmental sampling and testing activities were conducted along approximately ten miles of coastal properties in Oxnard and Port Hueneme in order to provide an assessment of the potential presence of contaminated soils and groundwater.

Hydrogeologic Investigation and Infiltration Capacity Analysis, Price Canyon Oilfield - Fugro Consultants, Inc. performed a preliminary infiltration capacity analysis and related hydrogeologic investigations below Lopez Dam in order to determine if and how much demineralized water generated from the Price Canyon oilfield could be recharged at the site, the sustainability of the recharge, any adverse geochemical reactions may occur within subsurface soils and the fate and disposition of the recharged water within the downstream reach of Arroyo Grande Creek.

Taylor Yard, Los Angeles, CA – Fugro Consultants, Inc. conducted extensive subsurface investigations to determine the presence of hydrocarbons, VOC's (volatile organic carbons), SVOC's and heavy metals in soil and VOC's, specifically PCE and TCE (poly and dichloroethanols), in groundwater at the Taylor Yard site that was formerly a rail yard since the early 1890's. A Removal Action Workplan was prepared and recently approved by the Department of Toxic Substance Control.

Georgia-Pacific Mill Site Project, Fort Bragg, CA– Fugro Consultants, Inc. has provided the City of Fort Bragg consulting services as part of the investigation, remediation and redevelopment activities for the Georgia-Pacific Mill Site in Fort Bragg. The project site, located on coastal bluffs, was the subject of wetland restoration, storm water conveyance and habitat restoration.

Copies of resumes and other pertinent background related to Fugro Consultants, Inc. are included in Appendix C of this proposal.

NOISE AND AIR QUALITY/GREENHOUSE GAS ASSESSMENT

In the areas of noise, air quality and greenhouse gas assessments, we propose to utilize the services of Mestre Greve Associates Inc. Mestre Greve Associates has provided noise and air quality assessment services for the past 28 years with their principals possessing a combined 70 years of total professional experience. Noise control engineering services provided by their firm include: assessments of aircraft, railroad and highway noise; noise assessments for environmental documents; development of General Plan Noise Elements; noise barrier design; architectural acoustics design; analyses of industrial plant noise and OSHA noise surveys and vibration analyses. Air quality services include air quality impact assessments and monitoring for traffic networks, transportation corridors and planned communities throughout the western United States. Recently, their expertise has expanded to include preparation of Greenhouse Gas Assessments in relation to Global Climate Change.

Projects which were completed by their firm which may be of particular relevance to this proposal are noted below:

Noise and Air Quality Assessments for the Vineyard Community Church – Mestre Greve conducted all required on- and off-site acoustical surveys and provided impact assessments for the proposed 14-acre church campus located adjacent to Los Osos Valley Road and Highway 101 (as described in detail above) for the County of San Luis Obispo. All appropriate mitigation measures were also provided.

Noise and Air Quality Assessments for the Chandler Ranch Master Plan – Mestre Greve conducted all required data collection and surveys and provided impact assessments for noise as related to the proposed Chandler Ranch Master Plan project alternatives for the City of Paso Robles. All appropriate mitigation measures were also provided.

Noise and Air Quality Assessments for the Willow Road Extension and Highway 101 Interchange – Mestre Greve conducted all required on-site acoustical surveys and provided impact assessments associated with the provision of the proposed alternative alignments for Willow Road and interchange facilities (as described in detail earlier) for the County of San Luis Obispo. All appropriate mitigation measures were also provided.

Noise and Air Quality Assessments for Harbor Terrace – Mestre Greve conducted on-site acoustical surveys and provided impact assessments for the Harbor Terrace project (as described in detail above) for the Port San Luis Harbor District. All appropriate mitigation measures were also provided.

Noise Assessment for the Widening of Monterey Street, City of San Luis Obispo - This noise assessment for the City of San Luis Obispo involved detailed noise measurement surveys and projections of future traffic levels and resultant roadway noise levels using the FHWA Highway Noise Model. At representative noise receptor locations, detailed analyses of existing and future noise mitigations were conducted. This study assessed impacts and mitigations in response to both Federal and local noise requirements.

City of Solvang, Noise Element - Mestre Greve developed the first Noise Element of the City of Solvang General Plan. Noise measurements were conducted throughout the City. Existing and future noise levels were projected with goals and policies being developed that reflected the unique features of the area. Noise standards were then provided for residential areas as well as for the downtown tourist-commercial zone.

Santa Rosa Street/Highway 101 Interchange, Noise Assessment - Noise assessments were conducted for this interchange project in Ventura County. Noise levels were identified and analyzed to determine potential land use incompatibilities and mitigation measures.

Santa Ana Transportation Corridor Noise Study - The Santa Ana Transportation Corridor (SATC) extends 52 miles across Orange County. The study assessed the noise impacts of eight alternative proposed configurations for this Corridor under the direction of the Orange County Transportation Authority. Travel modes being considered for incorporation within the SATC included auto, bus, train and rapid transit. Each of these alternatives was assessed for noise

sensitive land uses along the Corridor, and at identified areas, preliminary measures necessary to mitigate noise to acceptable levels were developed.

Copies of resumes and other pertinent background related to Mestre Greve Associates are included in Appendix C of this proposal.

V. PROJECT SCHEDULE

A preliminary project schedule depicting the various time frames involved for the tasks delineated in Section II, Scope of Work, of this proposal is provided below. Once the actual date of contract authorization is determined, a final project schedule with dates rather than time frames will be provided. Douglas Wood & Associates, Inc. is committed to the adherence of this schedule and the various time frames that are included therein.

Avila Point
Project Schedule

	Project Task	Time Frame
	County approval of contract and authorization to proceed	Week 1
1.	Documentation Review/Background Research	Week 4
2.	Preparation of Environmental Constraints Analysis	Week 8
3.	Preparation of Draft Project Development Plan and Project Description	Week 12
	Review and Revisions to Draft Project Development Plan and Project Description	Week 16
	Completion of Project Development Plan and Project Description	Week 21
	Circulation of Initial Study and Notice of Preparation (30 days)	Week 26
4.	Preparation of Administrative Draft EIR	Week 33
	Receipt of Comments on Administrative Draft EIR from County	Week 39
5.	Preparation of Draft EIR	Week 42
	Public Review Period (45 days)	Week 43 to Week 51
6.	Preparation of Administrative Final EIR /Responses to Comments	Week 55
	Receipt of Comments on Administrative Final EIR from County	Week 57
7.	Preparation of Final EIR	Week 59
8.	Preparation of Findings of Fact/Statement of Overriding Considerations	Week 60
9.	Project Organization and Coordination	Throughout all project phases
10.	Public Meetings and Hearing Attendance	Week 64

VI. COST DATA

We propose to perform planning services set forth herein in accordance with fixed fee and time and materials billing system based upon the wages spent for all personnel working on the project. Douglas Wood & Associates, Inc. will complete the above services for a maximum fee not to exceed $104,220.00 and $169,690.00 for the additional outside consultant services cited above for a total cost of $273,910.00. This total includes three tasks (Tasks 8, 9 and 10) which will be billed on a time and materials basis. A budget maximum for these tasks (involving $ 16,680.00 of this total) is provided for contractual purposes. Included in this total is an estimate of printing and reproduction costs of $7,500.00 for the required number of copies of the documents described within this proposal. This expense will also be billed on a time and materials basis. The direct cost of any additional consultant tasks, attendance and representation at additional meetings and/or hearings or additional subconsultant tasks beyond those specifically noted within Section II. Scope of Work of this proposal as well as meeting and/or hearing attendance by members of the subconsultant team or other related charges advanced by Wood & Associates, Inc. beyond those discussed herein are in addition to the previously-named figure.

A detailed breakdown of project costs per task by individual staff hours is provided in the attached table titled Cost Breakdown per Staff Member. A summary of all project costs is provided in the following table titled Cost Summary.

Avila Point
Cost Breakdown per Staff Member
Douglas Wood & Associates, Inc.

Task/Hours	Principal	Project Coordinator	Environ. Analyst	Production Coordinator	Clerical	Total Hours	Total Costs
1 Documentation Review/Background Research	16	20	10	0	0	46	$3,700
2 Preparation of Constraints Analysis	20	40	30	40	24	154	$9,420
3 Preparation of Draft Project Development Plan and Project Description	30	20	24	60	30	164	$9,700
4 Preparation of Administrative Draft EIR	120	120	100	120	100	560	$35,600
5 Preparation of Draft EIR	20	20	12	30	20	102	$6,300
6 Preparation of Administrative Final EIR	30	80	24	0	30	164	$11,500
7 Preparation of Final EIR	10	20	10	0	24	64	$3,820
8 Preparation of Findings of Fact/Statement of Overriding Considerations [1]	12	20	0	0	16	48	$3,280 [1]
9 Project Organization and Coordination [1]	80	24	0		16	120	$10,400 [1]
10 Public Meetings and Hearing Attendance [1]	30	0	0	0	0	30	$3,000 [1]
Total Hours	368	364	210	250	260	1,452	$96,720
Billing Rate Per Hour	$100/hr	$80/hr	$50/hr	$50/hr	$30/hr	--	--
Total Labor Cost	$36,800	$29,120	$10,500	$12,500	$7,800	--	$96,720
Direct Costs – Reproduction [1]	$7,500						$ 7,500
TOTAL - DOUGLAS WOOD & ASSOCIATES, INC.							$104,220

[1] These tasks will be billed on a time and materials basis. The budget maximums noted above are provided for contractual purposes .

Avila Point
Cost Summary

Douglas Wood & Associates, Inc.	$96,720.00
Althouse & Meade (Biological Resources)	$16,750.00
Central Coast Transportation Consulting (Traffic and Circulation)	$27,350.00
Cultural Resource Management Services (Cultural Resources)	$30,310.00
Fugro Consultants Inc. (Geology and Soils/ Hazards/ Hydrogeologic Resources)	$78,000.00
Mestre Greve Associates, Inc. (Noise/Air Quality/Greenhouse Gas Assessment)	$17,280.00
Printing and Reproduction	$7,500.00
TOTAL	$273,910.00

VII. OTHER QUALIFICATIONS

As noted in Section IV, Related Experience, principals of our firm possess extensive experience on other projects with similar characteristics or with environmental issues similar to those associated with the Avila Point project. Listings of personal and professional references for Wood & Associates, Inc. are included in Appendix A of this proposal.

Our firm's involvement in the preparation of the Draft and Final Environmental Impact Reports and Initial Studies for projects in the Avila Beach area as well as projects involving remediation of contaminated soils and groundwater, major pipeline/infrastructure projects, projects requiring major design input, projects involving Native American issues and coordination and large master plan developments are discussed in Section IV. Related Background of this proposal. These projects have provided our firm with valuable experience related to the unique characteristics and issues associated with the proposed project and a valuable perspective on the potential impacts, available mitigations and alternatives to be considered in the EIR.

Douglas Wood & Associates, Inc. is proud of its record of meeting project schedules and prescribed project time frames and budgets. Three examples of this record are: 1) the Harbor Terrace Draft and Final EIR noted in Section V. Related Experience of this proposal was prepared, reviewed and certified with ten months of the authorization to proceed on the project as specified in the project schedule; 2) the Potrero Creek Draft and Final EIR noted in this proposal was prepared, reviewed and certified within four months of circulation of the Notice of Preparation well ahead of the initial project schedule and 3) the Dove Canyon Feature Plan, Draft and Final EIR also noted in this proposal was prepared, reviewed, and certified within six months of authorization. Additional examples of our ability to meet or exceed schedules on large projects can be provided upon request.

We are confident that our firm as well as our consultant team can commit to meeting the schedule and budget contained in this proposal. We are also confident that we can provide a complete product and professional service in a cost effective and timely manner.

Douglas Wood & Associates, Inc., its Principals, its employees and all of the subconsultants discussed in this proposal do not and will not have any conflicts of interest (either real or perceived) and do not or will not have any other involvement on the proposed project or affected properties other than that discussed in this proposal at the time of initiation or during the performance of this work. We can confidently certify that our firm, its principals, and our subconsultants have the capacity and seek the opportunity to submit an objective and unbiased environmental document to the County of San Luis Obispo.

In addition, our firm is prepared to agree to the terms noted in the County's Contract for Special Services By Independent Contractor. These terms include Duties of the Consultant and the Scope of Work to prepare a Draft and Final EIR. We are also prepared to agree to all of the terms related to requirements for Indemnification, Insurance, Warranty of Contractor, etc. as required by the County of San Luis Obispo. We currently carry the required Professional Liability Insurance and Comprehensive General Liability Insurance policies in the amounts required by the County of San Luis Obispo.

VIII. REFERENCES

Public Sector	Private Sector
San Luis Obispo Local Agency Formation Commission 1042 Pacific Street, Suite A San Luis Obispo, CA 93401 David Church, Executive Officer (805) 788-2096	**Lockheed Martin Corporation** 100 S. Charles Street, Suite 1400 Baltimore, MD 21201 Mr. Ken Philbrick, Executive Vice-President (410)468-1000
Port San Luis Harbor District P.O. Box 249 Avila Beach, CA 93424 Jay Elder, Harbor Manager (retired) (360) 210-5821	**Clayson, Mann, Yaeger & Hansen** 601 S. Main Street Corona, CA 92882 Mr. David Saunders (951)737-1910
Nipomo Community Services District 148 S. Wilson Street Nipomo, CA 93444 Mr. Michael LeBrun, General Manager (805)929-1133	**O'Melvany & Myers** 400 South Hope Street Los Angeles, CA 90071-2899 Mr. Thomas F. Muller (213)699-6510

APPENDIX A

DOUGLAS WOOD & ASSOCIATES, INC.
RESUMES AND PERTINENT BACKGROUND

Professional Approach

Douglas Wood & Associates, Inc. has provided a full range of environmental services to our clients for the past 31 years. Members of our staff have been involved in the preparation of over 200 environmental impact reports (EIR's) for projects located throughout the State of California.

Douglas Wood & Associates, Inc. possesses extensive experience in the preparation of comprehensive EIR's for large projects with a complexity of significant environmental issues. Throughout these efforts, our firm has demonstrated an ability to find feasible solutions to environmental challenges and to build a consensus with public agencies, private landowners and members of the public. We have successfully secured environmental approvals, certifications and clearances from local agencies throughout the State of California. Included in these efforts has been involvement in the preparation of specialized biological, archaeological, paleontological, geologic, hydrologic, traffic circulation, fiscal, air quality and acoustical surveys through our subconsultant team as well as interface with a variety of local, State and Federal regulatory agencies.

The firm of Douglas Wood & Associates, Inc. is recognized by many governmental agencies and within the business community as an environmental consulting firm which offers the highest level of professional expertise and technical capability. Established in 1983, Wood & Associates, Inc. is known for its high level of principal involvement and commitment to handle each project as if were its own. We maintain a high level of principal involvement through all phases of the project. With over 72 years combined experience in the preparation of environmental documents, the expertise of the principals of Wood & Associates, Inc. can save time and money while providing the highest level of professional environmental consulting services.

We are proud of our record of maintaining a consistently high level of principal involvement through all phases of projects for which we are under contract. As a result of this policy, the Lead Agency receives the benefit of our expertise and experience which is reflected in the contents and overall production of Draft and Final Environmental Impact Reports as well as during representation at project meetings and public hearings.

Representative Clients Public Sector	Private Sector
County of Los Angeles	Baldwin Company
County of Orange	Bedford Properties
County of Riverside	Bramalea California, Inc.
County of San Bernardino	Donald L. Bren Company
County of San Luis Obispo	Coto de Caza Development Company
City of Anaheim	Dove Canyon Company
City of Arcadia	Griffin Homes
City of Banning	Hovchild Development Company
City of Beaumont	The Irvine Company
City of Burbank	John Laing Homes
City of Hemet	Johnson Machinery Company
City of Newport Beach	LDM Development
City of Norco	Lockheed Martin Corporation
City of Palmdale	Loma Linda University
City of Paso Robles	John D. Lusk & Son
City of Riverside	The William Lyon Company
City of Seal Beach	Newhall Land and Farming Company
City of San Clemente	Jack Nicklaus Development Company
City of Santa Maria	O'Melvaney & Myers
City of Temecula	Rancon Financial, Inc.
Nipomo Community Services District	Santiago Ranch, Inc.
Port San Luis Harbor District	C.J. Segerstrom & Sons
Santa Luis Obispo LAFCO	Standard Pacific Development Company
Santiago County Water District	Teachers Management & Investment, Inc.
Temecula Valley Unified School District	Robert P. Warmington Company

Resume of Douglas Wood

Principal and President

Experience

Mr. Wood currently oversees preparation of environmental documentation at Douglas Wood & Associates, Inc. and is also responsible for project management. His professional background lies within both the private and public sectors, beginning in 1973. His experience includes work as an environmental planner with the County of Orange, Environmental Management Agency and several private consulting firms. From 1978 to 1983, Mr. Wood was Vice President of Environmental Services at Robert Bein, William Frost & Associates, a Newport Beach Engineering and Planning firm. His duties included direct involvement in all phases of project planning, design, and engineering including processing of projects through various governmental agencies. His expertise includes presentations before various governmental bodies such as the Orange County Board of Supervisors, the San Luis Obispo County Board of Supervisors, the Riverside County Board of Supervisors, the California State Coastal Commission and dozens of City Councils and Planning Commissions throughout California. In 1983, the firm of Douglas Wood & Associates, Inc. was established, with Mr. Wood serving as Principal and President of the firm. Mr. Wood has extensive background in coordination, preparation and presentation of a variety of environmental documents. His background encompasses research analysis for environmental surveys, management and coordination of environmental impact analysis for various commercial, governmental, industrial and recreational projects, and liaison with a variety of environmental specialists and government agencies.

Education

B.S., Biology, University of Redlands, Redlands, California
M.S., Human Ecology/Urban Planning, University of California, Irvine

Lecturer

Cal Poly, San Luis Obispo, Extended Education, 1996 to present.

University of California, Irvine; Certificate Program Environmental Planning, Department of Social Ecology, 1976-1983.

Honors

Twice awarded Resolutions of Commendation, Orange County Board of Supervisors

Resume of Pamella Wood

Principal and Project Coordinator

Experience

Pamella Wood has been involved in the preparation of environmental documents and other planning studies for over 20 years. Her experience includes research, writing and in-house coordination for the production of Initial Studies, Environmental Impact Reports and Negative Declarations. She has prepared environmental documents for several residential projects in San Luis Obispo, Orange, Los Angeles, San Diego, San Bernardino and Riverside Counties. In addition, she has prepared environmental documents for a freeway interchange project and several local water district projects. Her experience also includes preparation of major Specific Plans and Specific Plan EIR's intended to permit concurrent processing of major planned communities. In her role at Douglas Wood & Associates, Inc., she has been involved in governmental processing, client liaison, and has served as consultant to the City of Norco in the review of environmental documents for a 4,000-unit development. Mrs. Wood was employed as Director of Environmental Services at Robert Bein, William Frost & Associates, a Newport Beach planning and engineering firm, from 1978 to 1982, and by the City of Simi Valley prior to her employment with Wood & Associates, Inc.

Education

B.A., Geography, California State University, Northridge, California

Resume of Paige Anderson

Environmental Analyst

Experience

Paige Anderson is involved in the preparation of environmental documents conducting research as well as writing of documents and providing in-house coordination for the production of Environmental Impact Reports. In her role at Douglas Wood & Associates, Inc., she has also been involved in graphics production and other production and administrative duties. She also coordinates with subconsultants and provides client liaison. Her education at Cal Poly University, San Luis Obispo provided her with experience in the preparation and presentation of detailed environmental analyses.

Education

B.S., Environmental Management and Protection, with an emphasis in Impact and Mitigation Strategies, California Polytechnic State University, San Luis Obispo (in process).

Resume of Joseph Malek

Production Coordinator and Graphic Artist

Experience

Joseph Malek has been involved in graphic design and marketing for approximately 14 years. He has produced planning, architectural and interior design renderings for planners, developers, architects, interior designers, film makers and various consultants. He has maintained a relationship with Douglas Wood & Associates during that period. His responsibilities with Douglas Wood & Associates include document production and plan preparation of the graphic portion of Environmental Impact Reports and Negative Declarations. He has also prepared tentative tract maps, site plans, landscaped illustratives and exhibits for approval by State, County and City agencies. Prior to working with Douglas Wood & Associates, he prepared graphics for site development permits, produced marketing literature and worked in the graphic/marketing departments of several planning and engineering firms.

Education

B.A., Environmental Design, University of Colorado, Boulder, Colorado

APPENDIX B

SUBCONSULTANT PROPOSALS

ALTHOUSE AND MEADE, INC.

BIOLOGICAL AND ENVIRONMENTAL SERVICES

1602 Spring Street • Paso Robles, CA 93446 • Telephone (805) 237-9626 • Fax (805) 237-9181

Lynne Dee Althouse, M.S.

Daniel E. Meade, Ph.D.

May 16, 2013

Proposal

No. 1232

Douglas Wood and Associates, Inc.
DWAEIR@aol.com

Re: Avila Point Project; 1717 Cave Landing Road, Avila Beach

As per your request we propose the following work:

Task 1. *Assist with the preparation of a Development Plan.* This effort will require the identification of any environmental constraints on or adjacent to the project site. Formulation of a Constraints Analysis will involve the review of any applicable previously-prepared analyses and the identification of constraints in a manner that is suitable for use in these site planning efforts. This Development Plan will provide the basis for the Project description to be included in the EIR.

a. *Map and describe wetlands and associated protected species* – Conduct jurisdictional delineation that may be used in future permitting documents under Clean Water Act sections 401 and 404 and Fish and Game Code 1600.

b. *Describe oak and riparian woodlands and associated protected species*

c. *Describe coastal bluff habitat and associated protected species*

d. *Map and describe rare, threatened, and endangered species habitats* – A full year survey would be required to complete this task. This does not include protocol-level surveys for state or federally listed species.

Cost estimate: $12,500 to be billed on time and materials basis.

Task 2. *Preparation of an Environmental Analysis.* Prepare an Environmental Analysis of impacts and mitigations to biological resources, including wetland/riparian resources. This analysis will include identification of any potentially significant environmental impacts, formulation of mitigation measures to reduce these identified impacts, a determination as to whether any of the impacts remain significant after implementation of proposed mitigation measures and provision of any project alternatives capable of reducing any remaining significant impacts.

Cost estimate: $ 4,250 to be billed on time and materials basis.

Task 3. Prepare for and attend six meetings or hearings as needed to meet with County staff and or other regulatory agencies (CDFW, USACE, RWQCB, etc.)

Cost estimate: $6,400 to be billed on time and materials basis.

Task 4. As-need consulting, including additional meetings upon request of Doug Wood.

Cost not to exceed: $8,000 to be billed on time and materials basis at $120/hour.

Timing: Work will begin upon return of our signed proposal. This proposal is valid for 45 days.

Materials Requested:

- Project plans and site maps as needed.
- CAD and or ArcGIS files with topography, easements, improvements, vegetation.
- Copies of environmental documents related to this project stored in County's files.
- Digital aerials, as available

Terms:

Payment for services
Payment is due upon presentation of invoice and must be received within 30 days of invoice date. If payment is not received within 30 days of invoice date a finance charge (1.5% per month) will be assessed from the invoice date. Please contact us if other arrangements are necessary.

Additional work
If in our professional judgment, additional work is determined to be necessary it will be billed at our hourly rates. Additional work will only be conducted when agreed to by client.

Acceptance of proposal
To accept this proposal, please initial and sign below and return one copy to our office. Also, please provide billing information and any additional contractual requirements for your accounts payable.

Proposal offered by

Lynne Dee Althouse

LynneDee Althouse
For Althouse and Meade, Inc.

Proposal accepted by

Client _____

For: _____

Date: _____

Billing Party_____

Billing Address_____

_____

ALTHOUSE AND MEADE, INC.

BIOLOGICAL AND ENVIRONMENTAL SERVICES

1602 Spring Street • Paso Robles, CA 93446 • Telephone (805) 237-9626 • Fax (805) 237-9181

Lynne Dee Althouse, M.S.
(805) 459-1660 (cell)
lynnedee@althouseandmeade.com

Daniel E. Meade, Ph.D.
(805) 705-2479 (cell)
dan@althouseandmeade.com

Professional Hourly Rates

January 2013

Staff

Staff	Regular	Overtime
Principal Biologist	120	180
Principal, Court Room or Depositions	300	450
Biologist I	90	135
Biologist II	75	112.50
Biologist III	50	75
GIS program manager	90	135
GIS project manager	70	105
CAD project manager	70	105
Database manager	55	82.50
Technician	35	52.50
Office Staff	35	52.50

We work with flexible 10-hour days, Sunday through Saturday. Any week over 40 hours or day over 10 hours and less than 12 hours, is charged at time and a half. Any day over 12 hours is charged double time.

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Avila Point Remediation and Redevelopment Project
Transportation Study Proposal

Central Coast Transportation Consulting (CCTC) is pleased to submit this proposal to assist with the Avila Point project in San Luis Obispo County. Our scope of work and budget are provided below.

PROJECT UNDERSTANDING

The Avila Point project consists of the remediation and redevelopment of a 95-acre parcel located in the Community of Avila Beach. The property was historically used as an oil tank farm, and the applicant envisions redevelopment with a resort with associated facilities.

This scope of work is divided into two sections: support services for the Avila Beach Specific Plan update and services related to the preparation of the EIR.

SECTION 1: STAFF SUPPORT SERVICES

This section includes the preparation of a constraints analysis and support for the Specific Plan amendment.

Task 1.1: Constraints Analysis

CCTC will prepare a constraints analysis documenting existing conditions of the transportation system in the study area. This analysis will include a review of relevant studies prepared by others. A preliminary list of study locations is listed below. The final study locations will be developed in consultation with the County and other applicable agencies.

Study Intersections:

- Avila Beach Drive/San Luis Bay Drive
- Avila Beach Drive/Cave Landing Road
- Avila Beach Drive/Project Driveway
- Avila Beach Drive/Shell Beach Road
- San Luis Bay Drive/Ontario Road

Study Roadway Segments:

- Highway 101 (North of San Luis Bay Drive)
- Highway 101 (South of Avila Beach Drive)
- Avila Beach Drive (West of San Luis Bay Drive

Given the nature of resort developments and Avila Beach's attraction as a tourist destination, the peak traffic conditions would likely occur during summer weekends. We have budgeted for the collection of new peak hour traffic counts at up to 5 locations, and will use existing data to the maximum extent possible. Study intersections will be evaluated using the Synchro software package during weekend peak hour conditions. Study roadway segments will be evaluated using average daily traffic (ADT) volumes.

Existing parking will be discussed using information contained in previously prepared studies, as the proposed project would provide on-site parking. Parking occupancy counts and other data collection can be conducted as an additional service if necessary.

The constraints analysis will document collision rates on roadways in the study area, and will compare the rates at high-collision locations to similar facilities in the County, Caltrans District 5, and Statewide.

CCTC will conduct field visits to ensure that the results of the Constraints Analysis accurately reflect field conditions.

Task 1.2: Local Coastal Plan/Specific Plan Amendment

The ABSP notes that future use of the project site will require an amendment to the Specific Plan. CCTC will review the proposed development plan in the context of the Specific Plan to determine the extent to which the project conforms to the Plan. This review will include issues related to vehicular, pedestrian, bicycle, and transit, as well as parking.

The project may also propose elements that are not addressed in the Specific Plan, such as the use of neighborhood electric vehicles or golf carts on public roadways. This section will include review and recommendations related to these issues. CCTC will assist in the preparation of development standards as a part of this task.

SECTION 2: EIR PREPARATION

CCTC will prepare a transportation impact study appropriate for use as an appendix to the EIR, and will prepare the transportation/circulation section of the EIR. Due to the phased nature of the project it will be necessary to evaluate traffic conditions during remediation of the project site, construction of the proposed resort, and operations of the proposed resort.

Task 2.1: Existing Conditions

This task will incorporate the analysis from the constraints analysis developed in Task 1.1.

Task 2.2: Evaluate Remediation and Construction Impacts

The project's remediation phase would consist of the removal and cleanup of industrial infrastructure remaining from the tank farm operations. Remediation activities may include the excavation and transportation of contaminated soils and infrastructure to off-site disposal locations and importation of clean soils if none are available from on-site borrow locations. The project's construction phase would consist of hauling of building materials/equipment and contractors accessing the site.

CCTC will estimate the traffic expected due to site remediation, including workers traveling to and from the site, mobilization of heavy equipment, and off-site hauling of material. The estimate will apply an equivalency factor to convert heavy vehicles to their passenger car equivalent, and will include an estimate of peak daily and hourly traffic expected during the highest intensity of activities. Similar estimates will be prepared for the construction phase of the project.

CCTC will review the proposed site access points to ensure they meet the applicable standards for sight distance and would allow for adequate acceleration and deceleration distance. On-site staging areas would also be reviewed as a part of this task, as would truck routes to and from the planned waste disposal sites and proposed employee parking

CCTC will identify impacts using County and Caltrans significance criteria.

Task 2.3: Redevelopment Impacts

The development of a resort hotel would generate peak hour traffic during the busy summer weekend periods, potentially impacting the local roadway network. Transportation impacts associated with the redevelopment of the project site would hinge on the trip generation estimates for the project. While the proposed uses are included in ITE's *Trip Generation Manual* (under the Resort Hotel land use), it may be necessary to modify these rates to reflect site specific conditions (such as the car-free design) and other

ancillary uses planned as a part of the project. Alternatively, a trip generation survey of a similar site can be conducted as an additional service. Trip generation and distribution estimates will be developed in consultation with County staff.

CCTC will evaluate potential impacts to vehicles, bicycles, pedestrians, transit, and parking in accordance with County and Caltrans criteria. Emergency access to the site will be addressed along with a review of the project's consistency with the Diablo Canyon Emergency Evacuation plan. The project's contribution to the County Road Maintenance Fund will also be calculated as a part of this task.

Task 2.4: Cumulative Impacts

CCTC will develop future year forecasts to reflect Cumulative Conditions both with and without the project. The forecasting methodology will be determined in consultation with County staff. Potential forecasting resources include the Avila Traffic Model, the SLOCOG Travel Demand Model, a project list approach, or some combination of these.

CCTC will contact the relevant agencies to collect information on planned roadway improvements expected to be in place under Cumulative Conditions. Cumulative impacts will be identified as described above.

Task 2.5: Mitigation Measures & Alternatives Analysis

CCTC will identify mitigation measures as needed to reduce or eliminate significant impacts associated with the Project. These measures may include restrictions on the timing of vehicles hauling soils or construction materials, the timing of employee shifts, designation of specific truck haul routes, designation of specific parking areas for employees and contractors, limitations on the size of special events, and potential roadway improvements. Currently proposed improvements will be considered as potential mitigation measures to ensure consistency with past planning.

Project alternatives will be qualitatively evaluated to determine if their impacts would be equal to, greater than, or less than those of the proposed project.

Task 2.6: Documentation

CCTC will prepare a transportation impact study suitable for inclusion as an appendix to the EIR, and will prepare the transportation/circulation section of the EIR. We have budgeted a total of 20 hours of staff time to respond to comments on the transportation impact study and/or EIR.

Task 2.7: Meetings & Hearings

We have budgeted for the attendance at up to six meetings: the kickoff meeting, four team meetings, and two public hearings. Additional meetings or hearings can be attended on a time-and-materials basis.

COST ESTIMATE

Our cost estimate to complete this scope of work is provided in Table 1.

Table 1: Detailed Cost Estimate

Task	Ron Marquez	Joe Fernandez	Graphics	Direct Costs[1]	Task Total
Hourly Billing Rates-->	$175	$125	$80		
1.1 Constraints Analysis	2	24	2	$1,600	$5,110
1.2 Specific Plan Update	2	12		$50	$1,900
Task 1 Subtotal					***$7,010***
2.1 Existing Conditions		4			$500
2.2 Remediation & Construction Impacts	1	16		$50	$2,225
2.3 Redevelopment Impacts	1	24		$50	$3,225
2.4 Cumulative Impacts	1	12			$1,675
2.5 Mitigation Measures/Alternatives	1	12			$1,675
2.6 Documentation					
Transportation Impact Study	4	36	8	$50	$5,890
EIR Transportation Section	2	16		$50	$2,400
Response to Comments	4	16		$50	$2,750
2.7 Meetings/hearings (6)		18		$250	$2,500
Task 2 Subtotal					***$22,840***
Total Budget					**$29,850**

1. Direct Costs indude mid-day peak hour counts at five intersections, document production, communications costs, and mileage reimbursed at the IRS approved rate (56.5 cents per mile as of January 2013).

CRMS

Cultural Resource Management Services
829 Paso Robles Street
Paso Robles, CA 93446
Phone 805-237-3838
Fax 805-237-3849

May 1, 2013

Mr. Doug Wood
Douglas Wood & Associates
1461 Higuera St.
San Luis Obispo, CA 93401

RE: Chevron Land and Development Company
1717 Cave Landing Road, Avila Point Project
Avila Beach, CA
Constraints Analysis, Identify Significant Environmental Impact,
Native American Early Participation Notice, Assist County With SB18
Consultation

Dear Mr. Wood:

At your request, Cultural Resource Management Services (CRMS) has prepared a cost proposal to conduct studies on the proposed project that will assist in the preparation of an Environmental Impact Report.

On this project, Todd Hannahs and Nancy Farrell will act as co-principal investigators. They will be responsible for the constraints analysis as well as assisting with an environmental evaluation of a potential design plan.

CRMS has worked with all the Native American groups within the County as well as many of the individuals that make up these individual families. The Conservation and Open Space Element of the County Land Use Ordinance has a provision to allow an early participation notice to local Native Americans and groups. CRMS will facilitate that notice.

If a General Plan Amendment is contemplated, it will trigger an SB18 consultation with the Native American community. The SB18 consultation is the responsibility of the legislative authority within the political subdivision. In this case, that ultimate authority is with the County of San Luis Obispo. CRMS can assist the County with this process. In our cost, we have provided for three scoping meeting either with the County or with the Native American community.

Follows is our cost for each of the four identified tasks:

Constraints Analysis/Development Plan	**$14,130**
Environmental Analysis/Mitigation Measures	**$12,517**
Native American Early Participation Notice	**$ 484**
Assist County With SB18/Scoping (3 Meetings)	**$ 3.179**

Any additional required meeting for any purpose associated with this project, for two people will be billed at $995 per meeting. This is assuming that the meeting will not exceed four hours, and will be held in San Luis Obispo.

Please call with any questions or comments. We look forward to working with you and the County on this project.

If you wish for us to proceed, prepare the necessary Agreement for Professional Services for execution.

Best regards,

Ron Rose
Vice President

FUGRO CONSULTANTS, INC.

660 Clarion Court, Suite A
San Luis Obispo, California 93401
Tel: (805) 542-0797
Fax: (805) 542-9311

May, 9, 2013
Proposal No: 04.72139069

Douglas Wood & Associates, Inc.
1401 Higuera Street
San Luis Obipso, California 93401

Attention: Mr. Douglas Wood, President

Subject: **Proposal for EIR Support Services for Avila Point Remediation and Redevelopment Project, County of San Luis Obispo**

Dear Mr. Wood:

Fugro Consultants, Inc. is pleased to be a part of the team you are forming to address the Avila Point Remediation and Redevelopment EIR process. The key personnel we will dedicate to this teaming effort are seasoned licensed professionals that have proven track records in providing value-added services to municipalities needing support through the planning and public review process, required through CEQA, for a new development project. One of the reasons we have been affective at providing value-added service to our environmental clients for more than 25 years in California is our senior professionals. These professionals are highly experienced with an eye on the impacts that contamination may have on a project and on a community. They are keenly aware of the potential impacts for redevelopment and construction activities, and understand the regulatory oversight and planning processes, as well as the risk management tools available to address regulatory , budgetary, and schedule constraints.

WHO WE ARE – FUGRO CONSULTANTS, INC.

Fugro Consultants, Inc. is one of the United States operating units of Fugro NV, a multi-national geoscience consulting and marine survey firm with decades of experience and operations worldwide. Fugro NV operates in 50 countries from more than 275 offices, including 30 in the United States, and has more than 13,500 employees worldwide. Fugro has been operating in California since 1977.

Fugro offers a wide range of geoscience services to meet our client's diverse needs. The company has a strong team of multi-disciplinary specialists with a combination of national and international experience and scientific expertise.

Fugro is committed to providing our clients with responsive, technically excellent services that maximize the value for each dollar spent. Fugro will ensure this objective by committing the necessary time and resources of its key personnel experienced in working in support of the EIR and planning process. We conduct ongoing and

SERVICES

- ***Environmental and Hazardous Materials Engineering***
- ***Groundwater Resources and Hydrogeology***
- ***Geotechnical Engineering***
- ***Engineering Geology***
- ***Earthquake Engineering***
- ***Marine Survey and Positioning***
- ***Construction Materials Engineering and Testing***

www. FugroConsultants.com

continuous dialogue with our clients to develop appropriate work scopes and approaches, to ensure that each project task is completed on time and within budget.

While we have a number of offices in California, our staff will be assigned out of our San Luis Obispo and Oakland offices. Fugro is a known and respected advisor to the County of San Luis Obispo and is listed on their Qualified Consultants List for Geologists and Hydrogeologists.

With any company that has been around as long as Fugro has on the Central Coast of California, it is reasonable to expect that we have worked in the Avila Beach area, and we have. However, we have not worked at the Avila Point property, we do not have any current projects with Chevron, and no current Fugro staff worked on the Avila Beach assessment and remediation tasks.

FUGRO SPECIALIZATION

Based on our review of County of San Luis Obispo provided information regarding the Avila Point property and its' potential future redevelopment vision, it is clear to us that due to the complex coastal environmental setting and presence of several chemicals and hazardous materials of concern, a multiple disciplinary approach is necessary to assess and evaluate site conditions as well as appropriate and protective remedial response. As such, the key Fugro staff that will be working on the Douglas Wood & Associates team will include the following disciplines:

- Environmental Professional Engineers and Geologists practicing in areas of petroleum hydrocarbon and hazardous materials assessment, remediation and risk assessment.
- Professional Geologists and Hydrogeologists, and Certified Engineering Geologists, practicing in the areas of groundwater resources and coastal environments.
- Toxicologists practicing in the area of Human Health and Ecological Risk Assessment within coastal environments, oil refining, and waste management.

Environmental Group Services

Fugro's Environmental Group is a key component of our local practice and focuses on hazardous materials consulting services involving soil, soil-gas, air quality, and groundwater investigations, risk assessment, and remediation. We provide these services to a wide variety of municipal, commercial, development, and transportation clients. Fugro's environmental group routinely coordinates and negotiates with local and State regulatory agencies including the Regional Water Quality Control Board and Department of Toxic Substances Control, as well as State and Federal natural resource agencies. Our project experience ranges from due diligence studies to multi-million dollar, multi-disciplinary remediation projects.

Fugro has successfully conducted environmental document and data review/compilation to develop constraint analysis and assessment for numerous contaminated properties, many of which have been impacted by refined and unrefined petroleum products. Many of the project sites have been located near sensitive human and ecological receptors, conditions similar to those present at the Avila Point project site. As such we understand the need to pay attention to numerous details when conducting our services so we do not overlook a potentially sensitive receptor or an issue which is constrained.

We have negotiated natural attenuation remediation approaches with RWQCB staff and have incorporated cost-effective remedial actions such as the incorporation of vapor barriers into construction projects. Our range of environmental services includes the following:

- Technical and regulatory strategies for contaminated properties
- Site assessment studies
- Risk Assessment and Risk Management
- Waste characterization and coordination of disposal services
- Assessment of Hazardous Building Materials and Conditions
- Cost estimating, preparation of engineering plans and specifications in the Construction
- Remedial engineering, estimating, oversight, and quality control monitoring

For complex environmental setting sites, our services are provided in collaboration with the risk assessment and toxicological services of SLR, International. SLR and Fugro staffs have successfully worked together on numerous risk assessment-based projects for both public and private clients, including our current peer review services at the former Mill Site for the City of Fort Bragg. SLR will be responsible for assisting Fugro with Human Health and Ecological Risk Analysis and Toxicology for this contract. SLR serves a broad range of local, national and multinational clients from industries such as pharmaceutical, legal, insurance, biotechnology, oil and gas exploration, transportation, refining, marketing, chemical manufacturing, and solid waste management.

Groundwater Resource Group Services
Fugro has extensive experience performing regional groundwater studies in Central California for clients that include counties, water districts, conservation districts, and municipal utility districts. These studies generally involve collection and review of hydrologic and hydrogeologic data, conceptualization and characterization of the regional and areal hydrogeology, estimation of surface and subsurface water balances, and development of groundwater flow models. Fugro's groundwater resources staff members, operating from our California offices have expertise focus on the following which we believe will be value-added for the Avila Point EIR Development project:

- Aquifer delineation and hydrogeologic characterization
- Water balance studies
- Groundwater flow models
- Water quality evaluations
- Groundwater mounding analysis
- Groundwater flow and solute transport modeling
- EIR Support studies
- Waste discharge requirements/NPDES

Fugro WLA Group Services
If need be, Fugro may rely upon the expertise of the Fugro WLA Group which is well known for their geologic expertise in performing research and conducting a wide range of site specific studies. FWLA has extensive experience studying the geologic formations onshore and offshore for the Diablo Canyon Nuclear Power Plant.

Project Examples, Staff Bios and Resumes
Several project descriptions have been attached to showcase the various expertises our key personnel has. We believe we possess relevant experience that would be value-added for the

Avila Point EIR development project. Brief bios for our proposed task managers are presented below and brief resumes of our key personnel are attached.

Glenn S. Young, PG, LEED AP with Fugro is a Principal Geologist and Manager of Fugro's Environmental Services Group. With over 25 years of professional consulting experience Mr. Young has a proven track record of steering projects through the regulatory process. He has managed site assessments, due diligence assessments for property transfers, groundwater investigations, soil-gas investigations, remedial actions, facility closures and cleanups. Mr. Young has directed numerous environmental projects involving community participation and has routinely negotiated with State and local regulatory agencies regarding all phases of investigation, risk assessment, remediation, and case closure. He has efficiently managed remediation at a variety of sites impacted by petroleum hydrocarbon contamination. Mr. Young was also the construction manager for several multi-million dollar remediation projects. He also managed site investigation and remediation activities at a former explosive manufacturing facility to meet the requirements of state and federal agencies, including the DTSC, RWQCB, the U.S. Army Corps of Engineers, California Department of Fish and Game, the U.S. Fish and Wildlife Service, as well as municipal planning and engineering departm ents.

Jeriann Alexander, PE, REPA with Fugro is a Principal Engineer with over 28 years of environmental consulting experience in California. Her environmental experience and training are uniquely complimented by her understanding and practical application of civil and geotechnical engineering practices. Projects benefit from her broad experience and knowledge of mechanical processes and waste stream generation and disposal practices. Ms. Alexander has managed a wide variety of projects including those involving tank farms. She routinely conducts facility audits, tank removals/closures, site characterization studies, hydrogeologic evaluations, remedial investigations, feasibility studies, and risk assessments. Ms. Alexander has consulted regarding soil and/or groundwater impacted by a full range of petroleum fuels. One of Ms. Alexander's particular strengths is with regard to state and local environmental regulations.

Mr. Paul Sorensen, PG, CEG, CHg, with Fugro. Is a Principal Hydrogeologist, with more than 30 years of experience in the fields of hydrogeology, geology, and engineering geology, with expertise in groundwater supply, water resource management, and water rights projects. His primary technical emphases include groundwater basin-yield evaluations; groundwater resource and basin management planning, artificial recharge and conjunctive use feasibility, design, and implementation; water rights issues, groundwater law, and basin adjudication proceedings; groundwater quality studies; aquifer test analyses; and water well, injection well, and monitoring well design and construction. Mr. Sorensen is our lead investigator for water resource projects in the Central California, and he has worked with the County of San Luis Obispo on several projects.

Dr. Mark Stelljes with SLR has 23 years of professional experience in risk assessment consulting, as well as another seven years of experience in the fields of pharmacology, toxicology, zoology, and ecology. This experience has included managing, directing, and conducting numerous human health and ecological risk assessments for projects up to $6 million. He has conducted and/or managed multiple projects under various USEPA regional, and state and local jurisdictions, including both Superfund and RCRA sites. Dr. Stelljes' work has included metals, pesticides, herbicides, PCBs, dioxins, PAHs, explosives, a variety of TPH mixtures, and new chemicals being brought to market. He has been involved with product stewardship work in both the U.S. and Europe, and has developed safe workplace levels and provided recommendations for safe use of new chemicals.

SCOPE OF WORK AND FEE

Based on our review of the project information and brief discussions with you, we understand that while the project area has been studied by a multitude of companies over the past 15-20 years, the time has come to put the property back into a viable reuse. The vision for the property will continue to revitalize the Avila Beach community which was devastated when contamination from the former tank farm practices and distribution systems were identified during a routine redevelopment project. Following extensive remediation, the community is healing, and with the redevelopment of the former tank farm property at Avila Point, community leaders should be encouraged.

Our role for this project would be to provide assistance to your team and the County as follows:

Phase I - Site Conditions Summary and Site Constraints Analysis. Existing reports and data will be reviewed with respect to the geologic, hydrogeologic conditions at the Avila Point project site and in the immediately adjacent areas. Site and site vicinity conditions will be summarized (to the extent possible based on existing reports) with respect to geologic layers present, permeability, occurrence of groundwater, depth to groundwater, groundwater gradient and direction of groundwater flow, and sources of recharge and discharge. The site conditions summary will include selected graphics to illustrate important aspects of site conditions such as geologic layering and groundwater movement.

We would further review the existing reports and data with respect to soil, rock and groundwater contamination. This review will pay attention to media specific (soil, water or rock) and designated/known areas of contamination based on the data available. Our evaluation findings will be presented in table and graphic format which will be used to develop an understanding of site constraints which may impact the methodologies selected for site remediation and redevelopment.

The conditions summaries described above will provide a basis for performing a site constraints analysis with respect to geologic, hydrogeologic, contamination, and toxicological conditions for use during the planning efforts for remediation and redevelopment. We will also evaluate risks posed to human and ecologic receptors based on current information and proposed future land use. While the details of the future land use are not known at this time, land-use specific chemical target levels could be developed for risk drivers that could assist in informing the constraints analysis. Such development of land-use specific target levels is included in this Phase of work.

An added benefit of the constraints analysis will be its usefulness in comparing our findings to those presented by the project proponent in their proposed Site Conceptual Model and other documents.

Phase II – EIR Review/Consultation. Fugro will review the Development Plan and Project Description developed through the EIR process, and assess and provide written comment on potential environmental impacts from and within our areas of expertise. We will also provide written peer review comment for other documents developed by the project proponent.
During this Phase of work we will develop possible mitigation measures for the proposed remediation and redevelopment plans, provide an assessment of the remaining impacts following implementation of mitigation measures, and develop possible alternatives to reduce

significant impacts. Fugro will be available for consultation with the EIR consultant on various topics which we have expertise.

Meetings and Hearings. Fugro staff is available to assist the team in preparation of and attendance at County staff meetings, public outreach and hearings, and at ATCAT meetings. For this proposal we have included attendance at up to 6 meetings by two of our task managers. Our participation can either be based on a time and expenses basis, or based on an anticipated number of meetings that Fugro staff will be asked to attend.

Written Products. For all services completed, we will provide a Technical Memorandum which will document what services we provided and our findings, comments and any presentation of data and conditions we believe is suitable to summarize our work.

Our services for these tasks will be provided on a time and materials (T&M) basis, and will be billed in accordance with the attached fee schedules. Based on our experience providing services for other EIR/planning document projects, we propose the following budgets be considered to cover our four areas of expertise. If the budgets below are exceeded we will continue to provide service on a T&M basis.

Phase I - Site Conditions Summary and Site Constraints Analysis

Geologic and Hydrogeologic Conditions	$10,000
Environmental Contamination Impact Remediation and Redevelopment Conditions	$15,000
Toxicological Impacts	$20,000

Phase II – EIR Review/Consultation.

Geologic and Hydrogeologic Issues	$ 8,000
Environmental Contamination Impact, Remediation and Redevelopment Issues	$10,000
Toxicological Impacts	$15,000

Meetings and Hearings (optional).

Assume up to 6 meetings by 2 task managers	$ 20,000

We look forward to working with the County and Douglas Wood & Associates on this project. If you have any questions regarding our proposal, please give us a call (Jeriann 510-610-8052, Paul 805-542-0797 ext 15).

Sincerely,

FUGRO CONSULTANTS, INC.

Jeriann Alexander, PE, REPA
Principal Engineer, Environmental Services Group

Paul Sorensen, PG, CHg, CEG
Manager, Groundwater Resources Group

Enclosures:

Project Examples
Resumes
Fee Schedules

SOUTHERN CALIFORNIA PROJECTS
PROFESSIONAL AND TECHNICAL FEES - 2013

1.0 Analysis, Consultation, and Report Preparation. Fees for Fugro professional services, including project administration, are based on the time of professional, technical, and other support personnel directly applied to the project. Personnel participating in judicial proceedings, whether it be expert or witness testimony, delivery of depositions, consultation to legal counsel, or preparation for such, will be billed at $325 per hour. Rates for overtime (other than as described below), weekend work, and emergency response will be quoted on request.

PROFESSIONAL STAFF	HOURLY RATE
Staff Professional	$ 110
Senior Staff Professional	120
Project Professional	140
Senior Project Professional	150
Senior Professional	165
Associate	185
Principal	215
Senior Principal	240
TECHNICAL AND OFFICE STAFF	
Field Technician/Inspector - Non-Prevailing Wage, Straight Time	95
Field Technician/Inspector - Prevailing Wage, Straight Time	105
Construction Inspector	110
Construction Services Manager	125
Engineering Assistant	110
Office Assistant	60
Word Processor/Clerical	75
Laboratory Technician	75
Technical Assistant/Illustrator	80
Illustrator II	85
CADD Operator	95
GIS Technician	95
HSE Manager	160

Overtime Rates for Technical and Office Staff:

a. Saturday or over 8 hours/day during weekdays ..... 1.3 x straight time
b. Saturdays over 8 hours or Sundays/holidays ..... 1.5 x straight time
c. Swing or graveyard shift premium ..... 1.3 x straight time

Hardware/Software Interpretive Programs

SMT/Fledermaus 25/hr
GIS/ACAD 25/hr
Finite Element/Finite Difference Packages 25/hr

OTHER DIRECT CHARGES

Field vehicle with sampling & logging equipment 200/day
Basic staff vehicle 100/day

Fee Schedule is subject to periodic revision, typically at the first of the year.

LABORATORY AND SPECIALTY TESTING AND EQUIPMENT ..... See Separate Schedules

2.0 Reimbursable Expenses. Expenses, other than salary costs, that are directly attributable to the performance of our professional services are billed either under separate fee schedules or as follows:

2.1 Transportation in personal vehicles at Internal Revenue Service rates.

2.2 Authorized travel expenses at cost plus 15 percent.

2.3 Direct project expenses, other than travel, including, but not limited to, sample shipment, subcontractors, and outside reproduction, cost plus 15 percent.

2.4 Time of external personnel retained for the project is charged at an assigned billing rate comparable to others in our company of corresponding expertise and experience.

3.0 **Other Services.** Projects may require other services, such as: field exploration, field or laboratory testing, or specialized computer services, which are not covered by this schedule. Fee schedules for other services can be provided upon request.

4.0 The above hourly rates apply for California, U.S.A. based projects.

SLR

Effective: October 2012

Fee Schedule

PROFESSIONAL SERVICES	Hourly Rate
Principal Staff	$225.00
Project Director	$200.00
Associate Staff	$175.00
Project Manager	$155.00
Senior Staff	$140.00
Project Staff	$125.00
Staff	$105.00
Field Technician	$80.00
CADD/Graphics	$85.00
Administrator	$80.00
Clerical	$75.00

Hourly rates for expert testimony and emergency response are 200% of rates shown.
Hourly rates for litigation support are 125% of rates shown.

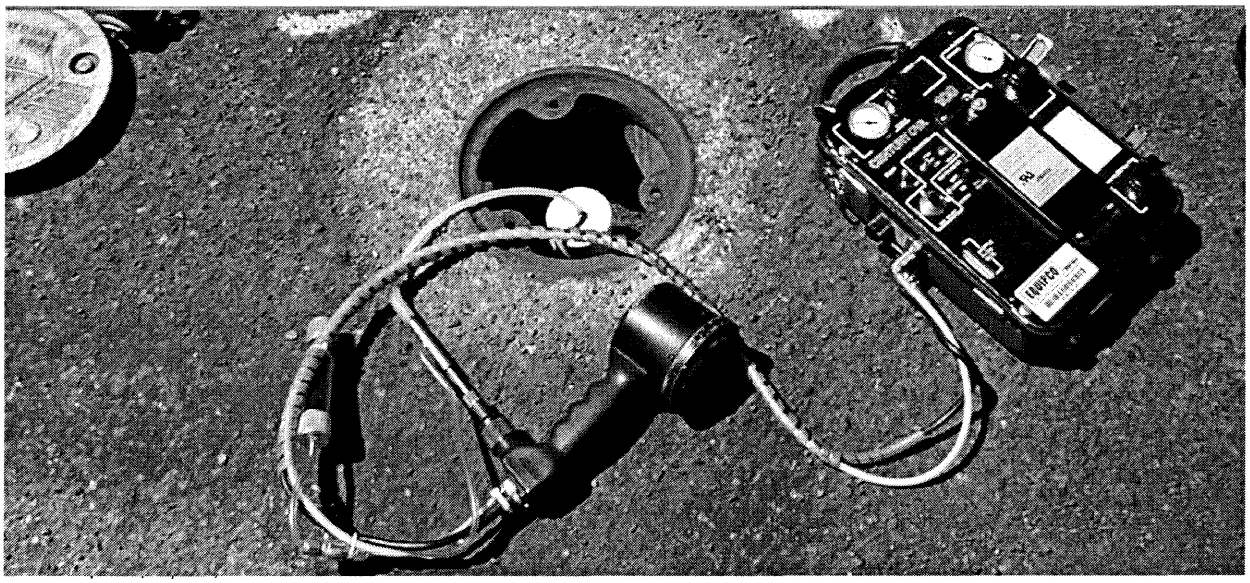
EQUIPMENT & MATERIALS	Rate
Truck (less than 6 hours/day)	$0.70/mile
Truck - day rate	$100.00
Car (less than 6 hours/day)	$0.45/mile
Car – day rate	$75.00
Equipment	cost plus 10%

OTHER	
Travel (air, ferry, train, taxi, etc.)	at cost
Meals & Lodging	at cost
Subcontractor and Other Direct Cost mark-up	cost plus 10%

SLR Master billing rate schedule for the United States.
Separate billing rate schedules applicable for Canada, the United Kingdom and other countries.

Ninth Avenue Terminal, Port of Oakland

Oakland, California



In the fall of 1992, the United States Coast Guard traced a hydrocarbon release in the Oakland Inner Harbor to a diesel tank at one of the tenants' facilities within the Port of Oakland's Ninth Avenue Terminal. The Port's legal department retained Fugro to perform a phased site characterization of the entire terminal.

Since 1996, Fugro has performed extensive environmental assessment activities and remediation planning, and provided litigation and cost recovery services, at the Port of Oakland's 9th Avenue Terminal. Fugro evaluated the past operations of numerous businesses that have occupied the property since the late 1890s including a cannery; lumber companies; metal plating, recycling and refinishing businesses; fertilizer formulators; chemical warehousing; bulk fuel processing; and general drayage. Chemical contaminants at the site include metals, solvents (volatile organic compounds [VOCs]), cyanide, pesticides, hexavalent chromium, and petroleum hydrocarbons.

The scope of services included: (1) extensive archival research, compilation, and review of historical records and data; (2) development and implementation of soil, soil-gas, and groundwater investigations to collect litigation-quality data, (3) assessment of a complex network of abandoned and active utilities acting as potential preferential pathways for contaminant migration; (4) evaluation of remedial alternatives and costs for various site redevelopment scenarios; and (5) litigation support

Project Information	
Owner/Client:	Port of Oakland
Contact:	Mr. Doug Herman
Phone Number:	(510) 627-1100
Project Date:	1992-2007

Services Provided

- Initial site assessment
- RI/FS
- Data Validation
- Litigation Support
- UST Removal

Ninth Avenue Terminal, Port of Oakland

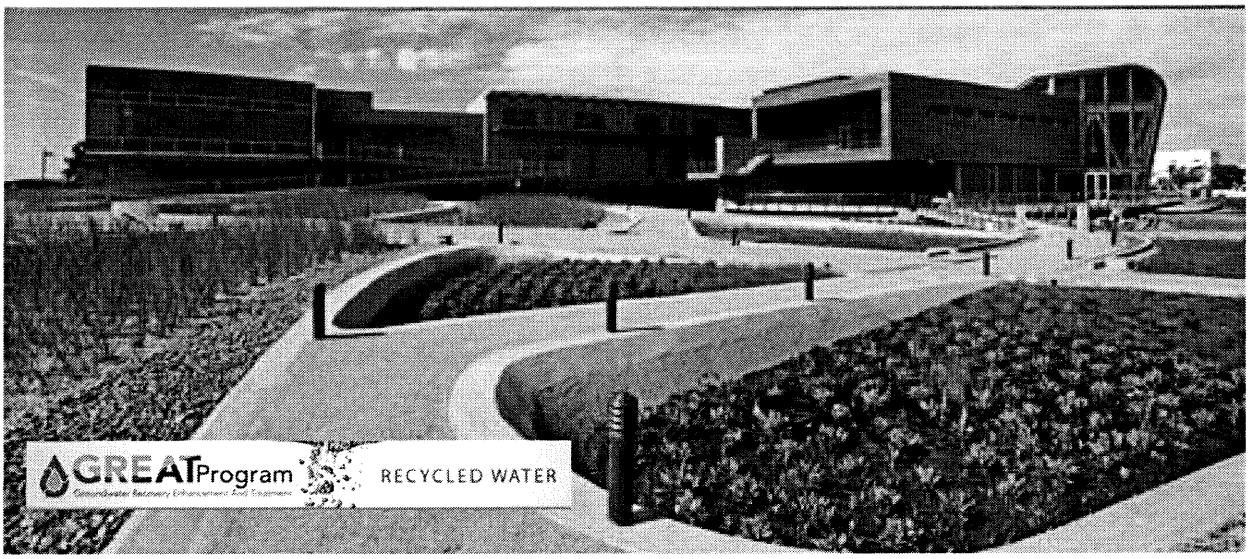
Oakland, California

for cost recovery efforts. Fugro has assisted the Port in all communications with the lead regulatory agency, the ACHCSA. Fugro is currently assisting the Port with negotiating a groundwater monitoring program with the ACHCSA and RWQCB, and is continuing to provide consultation during UST site investigation/remediation, lease termination actions and other property transaction issues.

Fugro conducted all services for this project in conformance with the NCP. These services include those specifically required under this procurement: preliminary site assessment using public information, work plans to explore the soil and groundwater, site assessments studies, RI/FS, cost evaluations, risk assessments, and quality assurance project plans. The 9th Ave. project also demonstrates Fugro's expertise in moving a remedial investigation from the initial assessment phase through sampling and analysis plans, to hot spot UST removals, to risk assessments, negotiations with the regulatory agencies on behalf of our client, and finally to litigation support, while at the same time maintaining our client's confidence that our services are cost effective, necessary and sufficient to meet the long-term requirements of the remedial project.

GREAT Program Phase I Recycled Water Backbone System

Oxnard and Port Hueneme, California



Fugro conducted a Phase I Initial Site Assessment, and a subsequent phase of environmental sampling and testing activities, for a proposed pipeline construction project, extending along more than 10 miles through an area of coastal fringe properties. Fugro completed these activities at the request of Black & Veatch Corporation for the City of Oxnard to provide assessment of the potential presence of contaminated soil and groundwater within the general vicinity of the proposed Ventura Road Utility Project and the Program Phase I Recycled Water Backbone System Project.

Historically, the area of the alignment along Ventura Road has transitioned from rural agricultural to subdivided commercial and residential uses. Other significant uses in the area include two closed solid waste landfills (Santa Clara and Coastal Landfills), Department of Defense (DOD) U.S. Naval Construction Battalion Center (CBC) Station of Port Hueneme, the Oxnard Airport, the Halaco Superfund site (end of Perkins Road), and several prominent industrial properties. In addition, the proposed pipeline alignment extends through the El Rio Oil Field, the Oxnard Forebay, and is adjacent to several sites listed in regulatory agency databases for having documented releases to soil and/or groundwater, or sites where companies historically used, stored, or generated hazardous materials.

The Phase I ISA included 1) review of existing project documentation, 2) review of a regulatory agency database listing of environmental records to identify potential sources of hazardous materials/wastes which may impact the area of proposed improvements, 3) review of existing historic maps and aerial photographs showing land use history, 4) review of some existing information for impacted sites identified by City staff or through a review of the database listings to clarify information, and 5) reconnaissance of the proposed project improvement areas. The ISA identified that the potential exists for chemical, biological and/or hazardous waste releases to have impacted soil and groundwater within the zone of construction for the proposed pipeline projects.

Fugro developed a soil and groundwater sampling and testing plan that was conducted concurrently with our geotechnical investigation of the pipeline alignment area to evaluate whether identified past

Project Information	
Owner:	City of Oxnard
Client:	Black & Veatch Corporation 800 Wilshire Blvd, Suite 600 Los Angeles, California 90017
Contact:	Mr. Andrew Stanton, P.E.
Phone Number:	1-213-312-3300
Project Date:	April 2009 - January 2010

Services Provided

- Phase I Initial Site Assessment
- Phase II Environmental Sampling and Testing Activities

activities may have impacted subsurface materials. The plan comprised submitting selected soil and grab groundwater samples from the proposed construction zone of the proposed improvements for chemical testing. In addition, selected grab groundwater samples were analyzed for an expanded suite of analytes to provide preliminary data to evaluate NPDES permit requirements and the quality of proposed construction dewatering discharges.

No suspected debris or miscellaneous fill was encountered during drilling of the test borings for this study. Previously suspected debris and miscellaneous fill was observed in the area of Ventura Road north of Vineyard Avenue during the Penfield & Smith study for the Ventura Road Utility project.

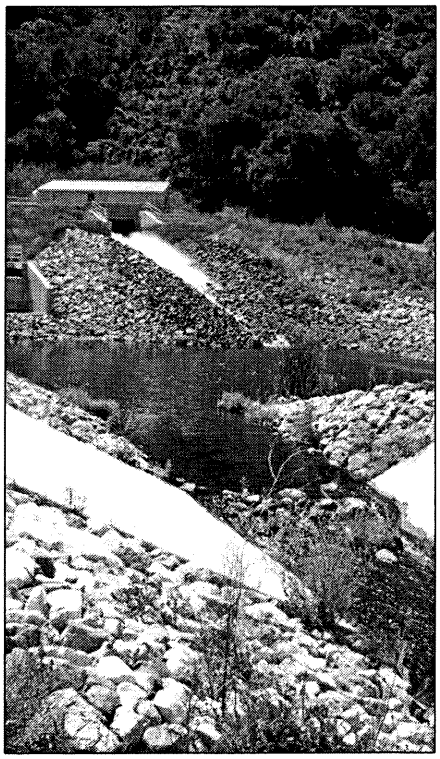
Soil test data suggested the presence of total petroleum hydrocarbons within the motor oil (TPHmo) range at concentrations exceeding the California screening level of 100 mg/kg in selected borings near former gasoline stations. All detected metal concentrations were below their respective California Human Health Screening Levels (CHHSLs) and RSLs. No total petroleum hydrocarbons within the gasoline (TPHg) range, chlorinated pesticides, polychlorinated biphenyls (PCBs), or herbicides were detected in any of the soil samples submitted for analyses.

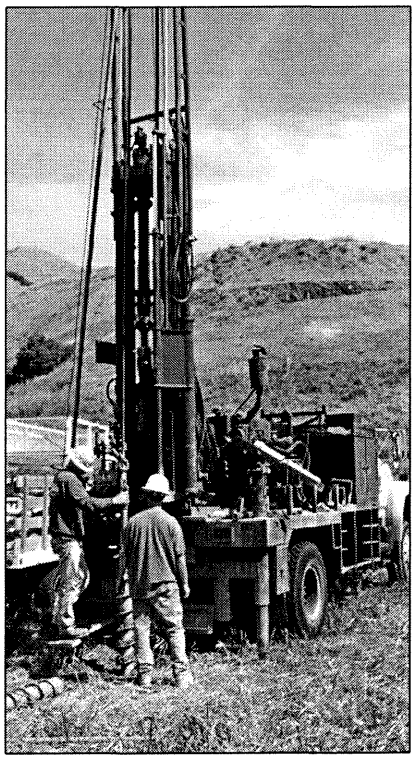
Groundwater test data suggested that construction dewatering water will need to be settled and possibly pre-treated prior to discharge under an NPDES permit. Turbidity, total settable solids, and total suspended solids concentration data obtained from a non-decanted water sample from Boring DH-202 were considered significantly elevated compared to data obtained from decanted samples. All other analyte concentrations were determined in all remaining samples by testing decanted water. Decanted water data suggested groundwater within the pipeline area contains petroleum products, toluene (which is a volatile organic compound, VOC), various metals, and other constituents at levels which exceed the water quality screening criteria listed in Regional Water Quality Control Board (RWQCB) Order No. R4-2008-0032.

Chemicals of potential concern were detected during this study as well as during previous studies by others as outlined in the Fugro ISA report. Fugro recommended that the information from our report as well as the data from the ISA should be used to develop a Soil and Groundwater Management Plan to address potential known and unknown impacts that should be anticipated during construction. Fugro also recommended that the results of our report and the ISA should be provided to the design team, and should be used to develop a site-specific Health & Safety Plan (HSP) that should be implemented to notify workers of the chemicals potentially located in soil and groundwater. The HSP should be reviewed and approved by a certified industrial hygienist.

Hydrogeologic Investigation and Infiltration Capacity Analysis, Price Canyon Oilfield

Lopez Lake Area, San Luis Obispo County, California





Plains Exploration and Production Company (PXP) has been in discussions with the County of San Luis Obispo to discharge water to the Arroyo Grande Creek system as part of the County's efforts to maintain water levels in the creek environment. It is estimated 3 to 5 acre-feet per day (afd) of excess produced water is available from the Price Canyon Oilfield to be demineralized and conveyed in a pipeline to the proposed infiltration site for beneficial reuse and habitat conservation.

Fugro performed a preliminary infiltration capacity analysis and related hydrogeologic investigation below Lopez Dam. The study was to determine if and how much of the demineralized water could be recharged at the site, the sustainability of the recharge and any adverse geochemical reactions in the subsurface, and the fate and disposition of the recharged water within the downstream reach of Arroyo Grande Creek. Project was conducted for Cannon Associates on behalf of PXP in order to develop an approximate 2.2-acre site located immediately below the dam in San Luis Obispo County. Elements of this study included:

Project Information	
Owner/Client:	Plains Exploration Company (PXP)
Client:	Cannon Associates
Completion Date:	2010

Services Provided

- Infiltration capacity analysis
- Hydrogeologic investigation
- Geochemical and thermal modeling
- Monitoring well installation
- Groundwater modeling

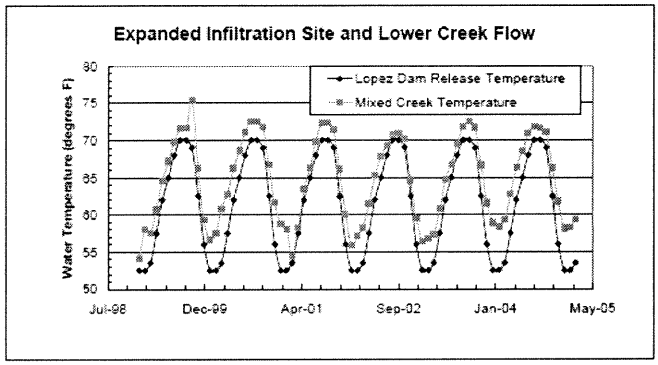
- Collection and review of background data
- Drilling of boreholes and installation of groundwater monitoring wells at the site
- Laboratory testing of bulk and undisturbed soil samples
- Slug testing using the monitoring wells
- Numerical groundwater flow modeling
- Geochemical modeling

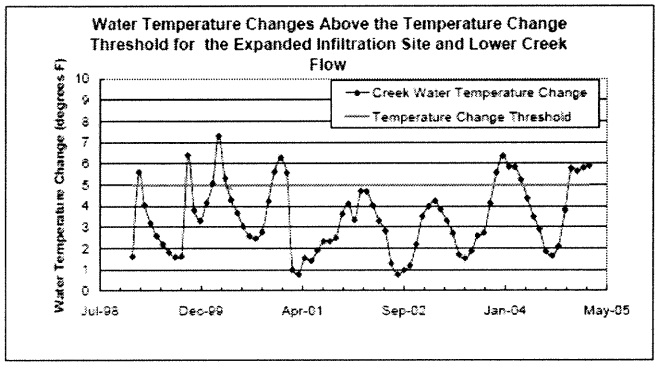
Hydrogeologic Investigation and Infiltration Capacity Analysis, Price Canyon Oilfield

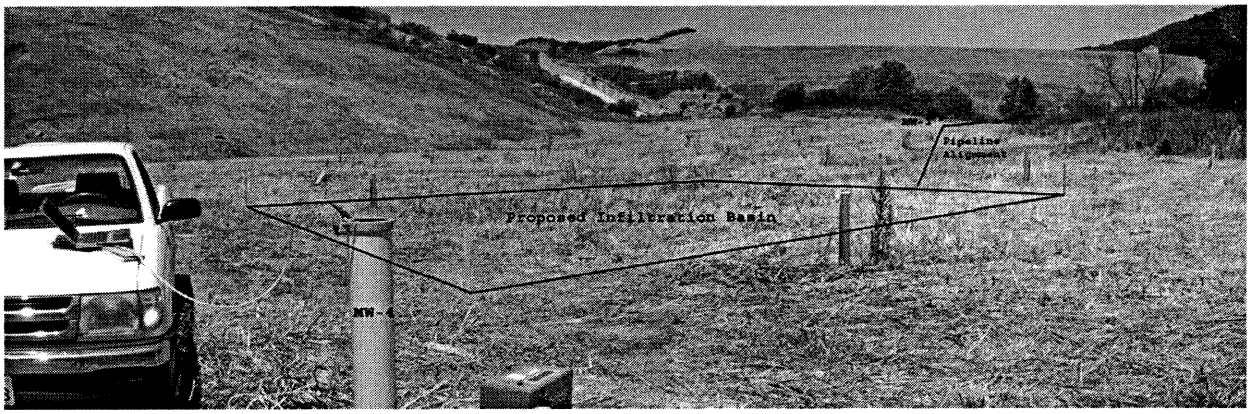
Lopez Lake Area, San Luis Obispo County, California

Available data from previous reports and data collected from the Fugro field investigation were used to construct a steady-state numerical groundwater model of the infiltration site and surrounding area. The model was constructed in MODFLOW using the Argus Open Numerical Environment and Groundwater Vistas graphical user interfaces. The purpose of the model was to evaluate the mounding due to the recharged permeate water and to examine the groundwater flow away from the infiltration site towards the creek.

The existing ground water flow model was expanded to analyze heat transport. The objective of the heat transport model was to evaluate the feasibility of discharging heated demineralized water (approximately 100 degrees F) onto the 2.2 acre site at a rate of 12 inches per day and evaluate whether the temperature increases at designated locations in Arroyo Grande Creek would be less than 5 degrees F. Groundwater Vistas files were used to create a SWIFT heat transport model that considered time-dependent boundary conditions for heat discharge, time stepping parameters, numerical convergence criteria, and post processing for graphical display. Model predictions included analysis of seasonal high and low stream flow conditions and releases from Lopez Lake.







Taylor Yard

Los Angeles, California

The Taylor Yard Project Site has been used for rail yard operations since the early 1890s. Historical operations include locomotive and refrigeration car maintenance, rail car sorting and assembly, and locomotive fueling. Portions of Taylor Yard were also used for rail car storage, switching, equipment storage, and utility department shops for electrical, mechanical, and plumbing works. The entire 243-acre Taylor Yard Project Site was divided into two distinct areas: the 69-acre Active Yard (Parcel G2), which was primarily used for locomotive service and maintenance, and the 174-acre Sale Parcel (Parcels C, D, E, F, and G1), which was formerly used to classify and hook-up rail cars. A 17.67-acre portion of Parcel C is in the process of being redeveloped into a transit oriented mixed-use retail and high-density residential development.

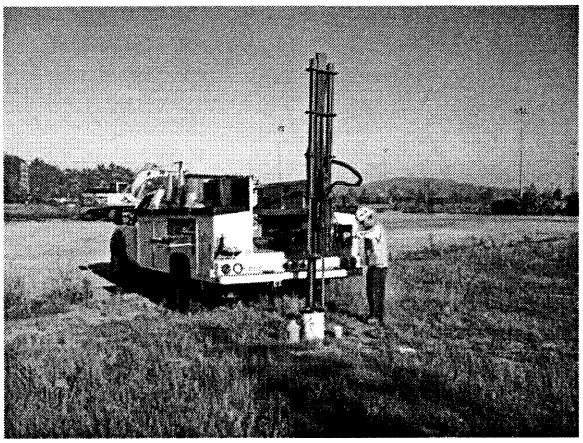
Previous investigations at the site in 2006 identified the presence of hydrocarbons, VOCs, SVOCs, and heavy metals in soil, and hydrocarbons and certain VOCs, specifically, PCE and TCE in groundwater at the site. Supplemental site characterization was recently completed at the site consisting of the completion of thirty-eight (38) direct push borings to a maximum depth of 14 feet bgs, the collection of five (5) groundwater samples from the existing monitoring wells, and the installation of forty-five (45) temporary soil-vapor probes completed to depths between 5.0 and 24 feet bgs.

A Removal Action Workplan (RAW) was recently approved by the DTSC to remediate SVOC and heavy metal impacted soil. The RAW will be implemented prior to the end of 2013 with the ultimate goal of obtaining a no further action for soil from the DTSC.

Project Information	
Owner:	McCormick Baron Salazar
Client:	SCA Environmental
Contact:	Christina Codemo
Phone Number:	415-867-9540
Completion Date:	2011 - Present

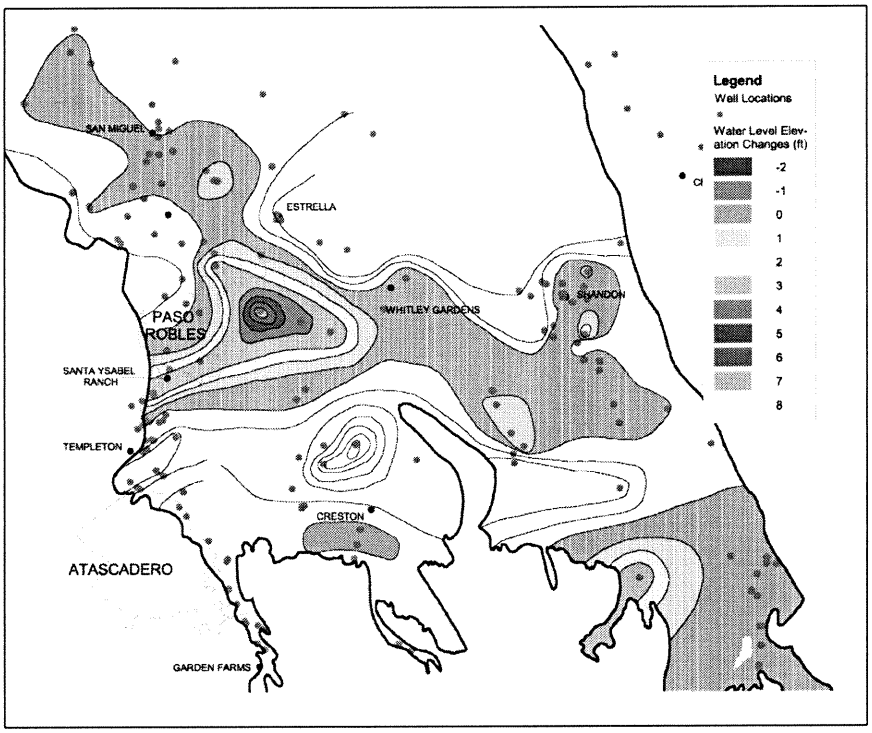
Services Provided

- Soil, Groundwater, and Soil-Vapor Investigation
- Preparation of Removal Action Workplan
- Removal Action Oversight



Paso Robles Groundwater Basin Study

San Luis Obispo County, California



Change in Water Surface Elevation in the Paso Robles Groundwater Basin – Spring 1980 – Spring 1997

The Paso Robles Groundwater Basin study was conducted to provide the San Luis Obispo County Public Works Department, North County public water agencies, and overlying landowners and water users an understanding of the basin by calculating:

- Extent of the basin, laterally and vertically,
- Existence of subbasins and other internal basin structures,
- Quantity of groundwater in storage in the basin,
- Hydraulic movement of groundwater through the basin,
- Sources and volumes of natural recharge,
- Perennial yield, and
- Trends in water quality.

This study provided insight into understanding the long-term yield and production capability of this most valuable resource and the foundation that the community needs to eventually participate in water resource planning. The knowledge gained by this study, and access to the data generated by the study, was necessary for the community to develop

Project Information	
Owner/Client:	County of San Luis Obispo, Public Works Department

Services Provided

- Compilation of Existing Data
- GIS Database Development
- Precipitation Data Evaluation
- Contouring Groundwater Surfaces
- Groundwater Storage Calculation
- Mapping Water Quality
- Mapping Groundwater Quantity and Flow Direction
- Water Balance Calculation
- Perennial Yield Estimation

Paso Robles Groundwater Basin Study

San Luis Obispo County, California

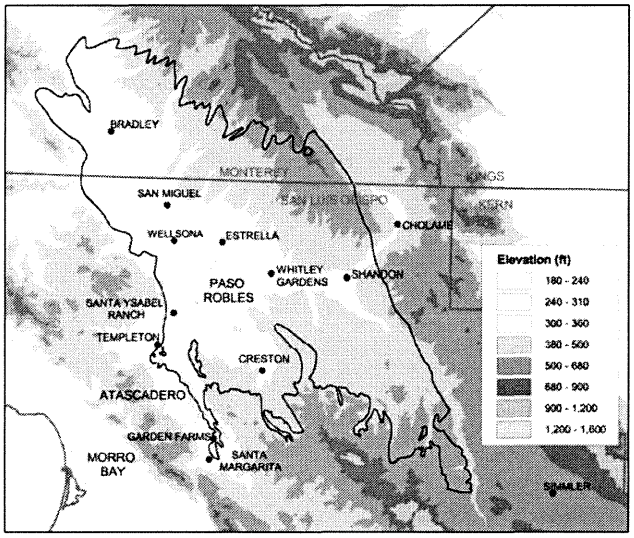
a confident and consensus based decision-making process.

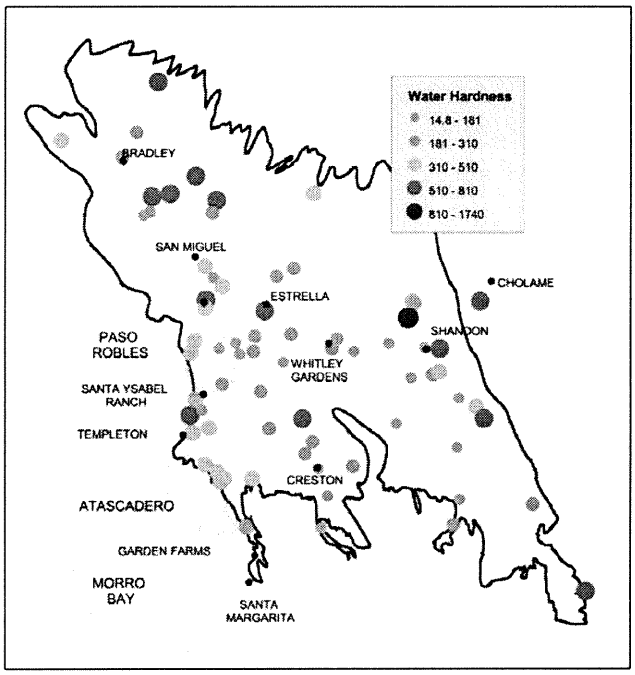
Fugro's role in the project was to collect and analyze existing data for the Paso Robles Groundwater Basin and vicinity. The results of the analysis were then used to create a three-dimensional hydrologic model of the basin. Data was collected in various formats from various sources and was compiled in Fugro's Geographic Information System (GIS). The GIS data is in a form compatible with the anticipated format for a groundwater model. Fugro collected the following types of data:

- Cultural and geographic features including city, county, and state boundaries, roads/highways, coast line, lakes, and rivers/streams,
- Land use features such as phreatophytes and riparian vegetation,
- Aerial photographs,
- Geology and topography,
- Well log data such as water well completion reports, oil and gas well logs, geophysical electric logs, and water level data,
- Hydrologic data such as precipitation records and stream flow,
- Water quality data,
- Water usage data such as agricultural water demand, municipal and community water demand, and rural domestic water demand,
- Water well pumping tests.

Fugro's analysis of the data included:

- Evaluating precipitation data to determine a hydrologic base period from 1980 through 1997,
- Contouring groundwater level surfaces for each year of the base period,
- Calculating the changes in the volume of groundwater storage for the basin for several time periods,
- Mapping the distribution of various water quality constituents,
- Mapping the direction and quantity of groundwater flow through the basin,
- Calculating the basin water balance (hydrologic budget) by estimating basin inflow and outflow components,
- Estimating perennial yield for the groundwater basin and subbasins.





Georgia-Pacific Mill Site Project

Fort Bragg, California

Fugro is providing the City of Fort Bragg with environmental consulting services as part of the investigation, remediation, and redevelopment activities for the Georgia-Pacific Mill Site in Fort Bragg, California. The property represents about 25% of the total land area currently incorporated within the city and is located on coastal bluffs.

The site, which was operational for 90 years, has been divided into five operable units (OU), including one OU for a coastal trail with passive recreational uses and another OU with wetland restoration with stormwater conveyance and habitat restoration. Redevelopment plans for the Site are subject to the conditions of the final Site-Specific Master Plan being prepared by the City. The City is also preparing an EIR for the redevelopment work. The project is ongoing and is being completed with oversight from California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC).

Chemicals of interest at the site include dioxins and furans from former wood and waste burning at the mill as well as buried ash, petroleum hydrocarbons, PAHs, and some heavy metals (e.g., lead). Fugro teamed with SLR Corporation to provide risk assessment for ecological and human receptors. In general services provided by Fugro and SLR to date have included peer review and consultation for:

Project Information	
Owner/Client:	City of Fort Bragg,
Contact:	Ms. Linda Ruffing, Community Development Director
Phone Number:	707) 961-2823 , ext 118,
Project Date:	2004 to present

Services Provided

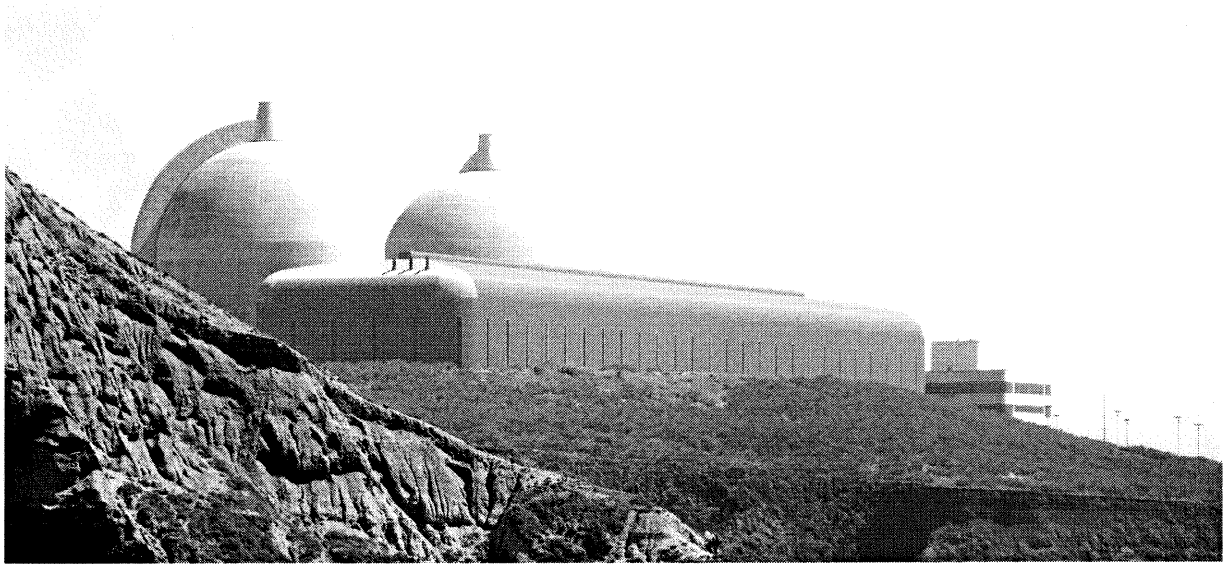
- Environmental Consulting Services
- Peer Review
- Agency Coordination
- Public Outreach
- Risk Assessment
- Field Oversight

- Assessment reports, work plans, and agency correspondence
- Field oversight during site assessment activities
- Agency meetings, including public workshops
- Risk assessment, toxicology, and other technical services, and
- Agency negotiations and meeting minutes.

Fugro routinely participates in public workshops designed to inform the general public of the investigation findings as well as to interact with the various regulatory stakeholders with interest and jurisdiction at the Site..

Diablo Canyon Power Plant

San Luis Obispo County, California



Diablo Canyon Nuclear Power Plant

Under an indefinite delivery order contract, Fugro is providing geologic and geotechnical services for the Pacific Gas and Electric Company's (PG&E) Diablo Canyon Power Plant located along the coast of south-central California. During the past twenty years, Fugro has performed numerous studies related to PG&E's Long-Term Seismic Program (LTSP) and various site-specific studies including development of an onsite spent fuel storage facility. As part of the LTSP, Fugro conducted comprehensive neotectonic and paleoseismic investigations to evaluate and characterize both known and previously unidentified faults in the site region. Over twenty specific seismic sources were characterized in terms of source geometry (e.g., length, dip, segmentation) and behavior (e.g., recency, slip rate, displacement per event) through a program of geologic mapping, drilling, and trenching. Results of the source characterization were used by PG&E to develop deterministic and probabilistic ground motions to re-examine the seismic basis for plant design and probabilistic risk associated with the seismic hazards.

Fugro also directed an investigation of seismic slope stability for Category I facilities at the Diablo Canyon Power Plant. Over 10 separate slopes were evaluated in detail by geologic mapping, rock mechanics evaluation, kinematic and pseudostatic analyses, and dynamic deformation computer modeling. Slope-specific ground motion studies were performed at

Project Information

Client:	Pacific Gas & Electric (PG&E)
Project Fee:	$1,400,000
Project Cost:	$3,500,000
Completion Date:	Ongoing

Services Provided

- Seismotectonic and ground motion evaluations for the Diablo Canyon Power Plant
- Seismic slope stability evaluation for Category I facilities
- Site characterization and ground motion studies for Dry Cask fuel storage facility

Mapping slope stability

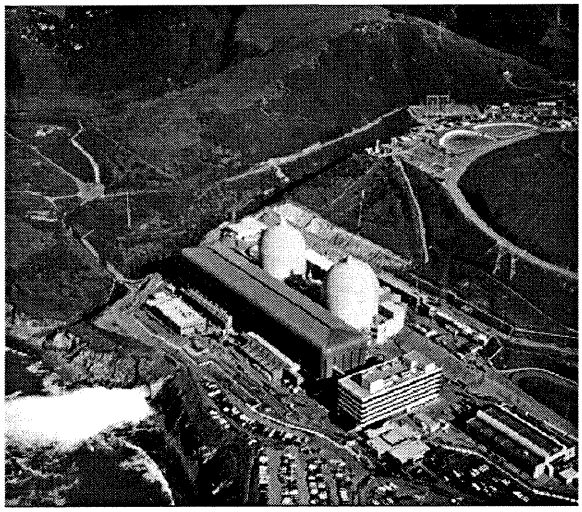
Diablo Canyon Power Plant

San Luis Obispo County, California

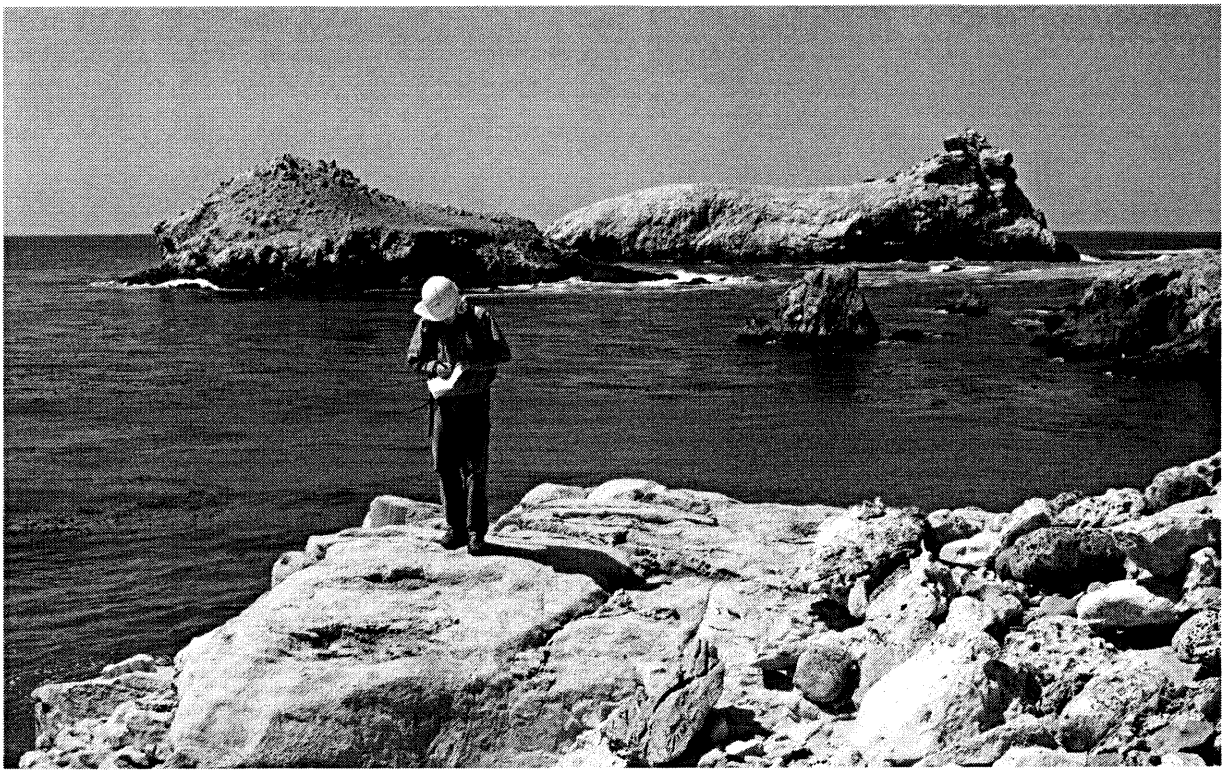
selected sites to evaluate peak rock acceleration amplification through the overburden soils. In addition to evaluation of specific slopes, the entire access road was evaluated, and the overall performance of cut and fill slopes was assessed for the design earthquake.

PG&E assessed the feasibility of licensing and constructing an interim dry cask storage facility for spent fuel rod assemblies. Fugro has performed several phases of feasibility and preliminary siting studies, and is involved in a continuing program to characterize potential sites. To date, Fugro has mapped and evaluated potential geologic hazards, selected alternative facility sites, characterized geologic and geotechnical site conditions by exploration drilling and geophysical surveys, and helped evaluate seismic response and ground motions for several proposed sites.

Fugro is currently assisting PG&E to evaluate a recently identified fault directly offshore from the Diablo Canyon Power Plant and is participating in updating their long term seismic program.



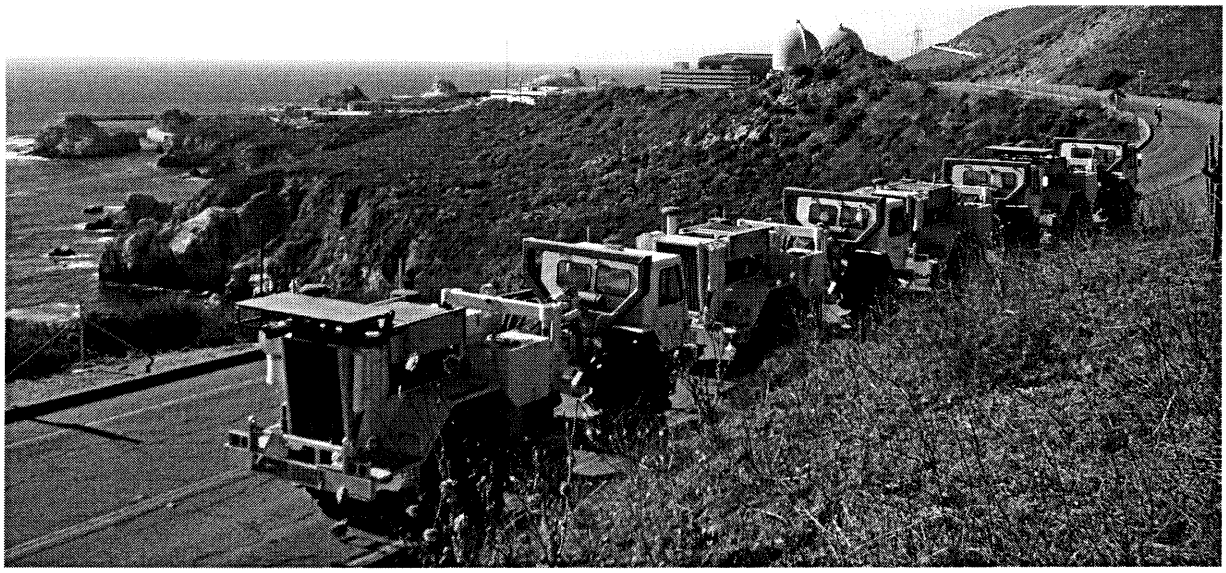
Diablo Canyon Nuclear Power Plant



Studying rock formations at Diablo Canyon Nuclear Power Plant

CCCSIP Onshore 2D and 3D Seismic Reflection Activities, Diablo Canyon Power Plant

San Luis Obispo County, California



Vibroseis source array, onshore seismic data collection at Diablo Canyon.

The objective of this Fugro project was to conduct onshore 2D and 3D seismic reflection surveys under Nuclear Quality Assurance (NQA-1) oversight. The surveys are being conducted to image potential onshore faults and geologic structures in the Diablo Canyon Power Plant (DCPP) region. The project is named the Central California Coast Seismic Imaging Project (CCCSIP), and the owner of the project is the Pacific Gas & Electric (PG&E) Company. The PG&E Geosciences Department contracted Fugro Consultants Inc. (FCL) to provide Quality Assurance (QA) management services in support of these studies/surveys. PG&E performed a surveillance of FCL's QA program and approved the program based on the requirements of 10 CFR 50, Appendix B; NQA-1-1994; and 10 CFR 21. FCL was tasked with implementing their NQA-1 QA program for field data acquisition and processing performed by FCL and other subcontractors.

PG&E desired to obtain 2D and 3D high-resolution seismic reflection data in onshore areas of DCPP region. These areas are both on PG&E property and offsite to the north as far as Morro Bay and south to the Los Osos Valley. Onshore Seismic Reflection Surveys (SRS) activities were developed by FCL and comprised an initial seismic source testing program and subsequent High-Resolution 2D and 3D Seismic Reflection Surveys. The SRS included a multiple energy sources (Vibroseis and Accelerated Weight Drop [AWD]) and receiver arrays (Nodes and conventional cabled geophones). Some of the data collection activities required working in restricted and sensitive areas within and offsite of DCPP property. These activities required developing and implementing a vibration control program and complex coordination with environmental subconsultants and compliance requirements Following the 2011 SRS, FCL participated on geologic strip mapping along the SRS transects.

Project Information	
Owner:	Pacific Gas & Electric Co. (PG&E)
Project Fee:	$5,600,000
Project Cost:	$60,000,000
Completion Date:	Ongoing

The FCL QA Program directly controlled the following work elements under subcontracts to FCL: (1) qualification of subcontractors performing nuclear safety-related activities (2) procurement of all but the highest contract value subcontractors; 3) submittal of QA planning documentation; (4) processing and interpretation software, including IHS Kingdom Suite.

CCCSIP Offshore 2D and 3D Seismic Reflection Activities, Diablo Canyon Power Plant

San Luis Obispo County, California

Deploying Vane from stern of R/V Pacific Star while conducting offshore seismic data collection at Diablo Canyon.

The objective of this Fugro project was to provide Nuclear Quality Assurance (NQA-1) oversight of collection and processing of Ultra high resolution (UHRS) 2D and 3D offshore seismic reflection survey data. The surveys are being conducted to image potential nearshore and offshore faults and geologic structures in the Diablo Canyon Power Plant (DCPP) region. The project is named the Central California Coast Seismic Imaging Project (CCCSIP) and the owner is the Pacific Gas & Electric (PG&E) Company. The PG&E Geosciences Department contracted Fugro Consultants Inc. (FCL) to provide Quality Assurance (QA) management services in support of these studies/surveys. PG&E performed a surveillance of FCL's QA program and approved the program based on the requirements of 10 CFR 50, Appendix B; NQA-1-1994; and 10 CFR 21. FCL was tasked with implementing their NQA-1 QA program for field data acquisition and processing performed by FCL and other subcontractors.

PG&E wanted to acquire ultra high-resolution high and low energy (PCable) 3D seismic reflection data in San Luis Bay, Central California Coast. The primary goals of the 3D UHRS program were to collect data to:

1. Resolve the location of southern end of the Shoreline fault in San Luis Bay, or to map possible connections with other fault zones such as the Pecho fault or San Luis Bay fault, and
2. Resolve buried channels paleochannels in San Luis Bay and their relationships with the Shoreline fault.
3. Create high resolution wide 2D and 3D seismic reflection profiles of major geologic structures, fault zones (Hosgri, Los Osos, and Shoreline), and fault zone intersections in Estero Bay
4. Augment current regional seismic data base for subsequent use and analysis.
5. Obtain travel-time data to use in tomographic inversions to develop three-dimensional constraints on crustal velocity structure to improve seismic reflection imaging.

Project Information

Client:	Pacific Gas & Electric Company
Project Fee:	$6,500,000
Project Cost:	$60,000,000
Completion Date:	Ongoing

Services Provided

Implementation planning, execution, oversight and documentation of all offshore seismic reflection surveys under FCL Nuclear Appendix B NQA-1 program. Qualification of offshore legacy seismic database and validation of key processing and interpretation software

Mestre Greve Associates
Division of Landrum & Brown

20 May 2013

Mr. Doug Wood
Douglas Wood & Associates
1461 Higuera Street, Suite A
San Luis Obispo, CA 93401

Subject: Proposal for the Noise, Air Quality and Greenhouse Gas Assessments for Avila Point in the County of San Louis Obispo

Dear Doug,

Mestre Greve Associates Division of Landrum and Brown is please to submit this proposal to prepare the noise, air quality and greenhouse gas assessments for the proposed Avila Point project in the Avila Beach community in unincorporated San Louis Obispo County. We understand the project proposes the development of a resort on a 95-acre parcel located on the southeast end of the community. The project is expected to include development of a 100 room hotel, 95 family cottages, restaurants, a wellness center and gathering and meeting facilities. The project site was formerly used as an oil tank farm and shipping facility and will require remediation prior to development of the proposed project.

The technical assessments will be organized in the standard EIR format of existing environment, potential impacts, and mitigation measures to facilitate inclusion of our reports into the main text. The following scope of work is proposed.

Scope of Work

Task 1: Existing Conditions/Constraint Analysis

The project applicant has prepared a Vision Plan that describes their goals for the project but no specific design proposal has been develop. The applicant would like information from the County and their environmental consultant regarding the existing conditions on the project site and any environmental constraints that should be considered during development of the plan.

We will prepare a letter report presenting a discussion of the existing site conditions relative to noise, air quality, and greenhouse gas along with a discussion of the potential constraints on the development of the project in terms of impacts from the development and regulations applicable to that the development. The information presented in this letter will serve as the basis for the existing environment sections of the technical reports and will include the information listed under the Existing Environment for each of the technical reports described in Tasks 2 through 4 below. Note that our cost for Tasks 2 and 4 includes incorporating the existing conditions discussions into the technical reports and refining the discussion as needed. However, if conditions have changed substantially between the preparation of the existing conditions/constraint analysis and technical reports requiring substantial revisions to the existing conditions analysis, additional services may be required.

Task 2: Noise Assessment

Existing Environment: Short-term noise measurements will be performed at up to fourlocations in the vicinity of the project. Existing traffic noise levels will be estimated using the FHWA highway noise model ("FHWA Highway Traffic Noise Prediction Model," FHWA-RD-77-108). The traffic noise level estimates will be used conjunction with the noise measurements to describe existing noise levels in the project vicinity. Community noise standards relevant to this project are contained in the County of San Louis Obispo Noise Element and Noise Ordinance as well as the Avila Beach Specific Plan. Standards for the jurisdiction will be summarized and their relevance to the project discussed.

Potential Impacts: Potential noise impacts can be divided into short-term construction noise, on-site impacts and impacts on surrounding land uses, and on-site noise/land use compatibility.

Noise levels generated by remediation and construction activities will be estimated at nearbysensitive receptors. Potential offsite traffic noise impacts from trucks associated with the remediation will be examined, The application of the County of San Louis Obispo Noise Ordinance to controlconstruction noise will be discussed.

The traffic noise level increases on local roadways caused by the proposed project will be assessed in terms of the CNEL noise scale. The increase in noise levels due to the project will be determined. Areas that will experience a significant noise increase will be identified. For the project scenario, the absolute noise levels experienced in these areas will then be determined, and the resulting noise impacts discussed.

Traffic noise levels that impact the new development will also be assessed for compatibility with the proposed land uses. Noise levels within the project area will be determined and compared tonoise/land compatibility guidelines contained in the County of San Louis Obispo Noise Element and/orthe State Compatibility Guidelines.

The potential noise impacts from on-site activities and equipment resulting from the proposed project will be examined. Noise levels from these activities will be estimated at sensitive uses in the vicinity of the project. Compatibility of the noise generated by activities within the proposed project with the existing nearby uses will be discussed relative to the County's Noise Ordinance standard.

Mitigation Measures: Measures to minimize noise impacts from construction activities will be provided. If operational impacts are identified mitigation through the construction of noise barriers will likely be warranted.

Task 3: Air Quality Assessment

Existing Environment: The existing air environment will be described in terms of meteorology, local topography affecting pollutant dispersion, and ambient air monitoring data. The project is located in the South Central Coast Air Basin (SCCAB), and under the jurisdiction of the San Louis Obispo Air Pollution Control District (SLOAPCD). A summary of current air management efforts that may be related to the proposed project will be provided with particular emphasis on the 2001 Clean Air Plan, the 2005 SB 656 required Particulate Matter Report, and the requirements for air quality assessments identified in the SLOAPCD CEQA Handbook. Sensitive receptor areas within the project vicinity will be identified.

Potential Impacts: The air quality impacts of the proposed project can be divided into the short-term dust generation, local impacts and long-term regional air pollution increases.

Short-term dust and emission generation due to remediation and construction activities will be forecasted using the CalEEMod Model published by the SCAQMD. If provided by the project applicant, detailed estimates of the potential equipment to be utilized will be used for these forecasts. Otherwise conservative or default estimates of remediation construction activities will be utilized. The air pollutant emissions during construction will be compared to the SLOAPCD Regional and Local Significance Thresholds. Measures to reduce dust generation are required by the South Coast Air Quality Management District. Additionally, measures are contained in the 2007 AQMP for control of construction activity emissions. These measures will be discussed in the report.

Considerable changes in long-term, operational, emissions are not expected, as the project does not propose any operational air pollutant sources. Potential changes in local air pollutant concentrations along the roads and near the intersections affected by the project will be assessed. Absolute pollutant concentrations will be assessed based on the Ambient Air Quality Standards and changes in concentrations will be assessed per the thresholds recommended by the SCAQMD.

Mitigation Measures: The SLOAPCD CEQA Handbook specifies mitigation measures to be implemented to mitigation construction and operational air quality impacts based on the level of emissions above the significance threshold. Mitigation required for remediation and construction operations will be presented. For operational emissions a list of mitigation measures is presented and the number of measures that must be implemented is determined by the projects emissions compared to the significance threshold

The operational mitigation measures presented in the SLOAPCD CEQA Handbook will be evaluated for relevance and feasibility and those that are applicable to the project will be presented along with a preliminary discussion of the feasibility of implementing each of these measures. The number of mitigation measures required to be implemented will be specified.

Task 4: Greenhouse Gas Assessment

Existing Environment: Background information on greenhouse gasses, emission sources and generation rates, and regulations relating to reducing emissions of greenhouse gasses will be presented. The report will also discuss the fact that climate change is a global problem, and identify on a large-scale basis the major sources of greenhouse gas emissions.

The County of San Luis Obispo has adopted a Climate Action Plan (CAP), the "Energywise Plan." This plan outlines the County's approach to reducing GHG emissions through a number of goals, measures and actions that provide a roadmap to achieving the County's GHG reduction target of 15% below baseline levels by 2020. This plan was approved by the County's Board of Supervisors in 2011 after extensive public meetings along with an EIR addendum prepared for the plan that did not identify any potentially significant environmental impacts of the plan. Per the CEQA guidelines section 15183.5, any project that is consistent with a qualified Climate Action Plan is considered to not result in a significant greenhouse gas assessment. Plan requirements applicable to the proposed project will be described.

Potential Impacts. The proposed project will be evaluated for consistency with the County of San Louis Obisbo's "Energywise" CAP. If the project is found to be consistent with the CAP it will not result in a significant impact and this will be noted. If the proposed plan is found not to be consistent with the CAP then potential mitigation measures to make the project consistent with the CAP will be evaluated. If it is found that the project is not

consistent with the CAP and there are insufficient feasible measures to make the project consistent with the CAP, then the CalEEMod model will be used to project the primary GHG emissions from remediation and construction activities as well as long term operational emissions associated with the project.

Remediation and construction emissions will be amortized over the project lifespan (25 years) per the SLOAPCD CEQA Guidelines and added to the projected annual operational emissions. The combined emissions will be compared with the SLOAPCD significance threshold for development projects of 1,150 metric tons per year or 4.9 metric tons per year per service population. The service population is defined as the number of residents and employees

Mitigation Measures: If the project is found to result in a significant GHG impact mitigation measures will be developed. Lead agencies must consider feasible means of mitigating the significant effects of GHGs based on "substantial evidence and subject to monitoring or reporting." Mitigation measures may include: (1) mitigation measures in an adopted plan, (2) reductions resulting from project implementation including measures identified in Appendix F of the CEQA Guidelines, (3) off- site measures including carbon offsets, community energy conservation projects, and forestry projects, (4) greenhouse gas sequestration, and (5) development of measures that can be implemented at the project level.

Costs

We propose to prepare the noise, air quality and greenhouse gas assessments for the Avila Point project on a time and materials basis with a cost not to exceed $17,280. The costs for each task are broken out in the table below. Our hourly rates are $180 for Managing Directors, $160 for Project Managers, $90 for Senior Consultants, $75 for Consultants, $65 for Analysts, and $55 for Analyst II. Attendance at meetings or public hearings is not included in our cost. These tasks can be accommodated on a time and materials basis if needed.

Task	**Cost**
1. Existing Conditions/Constraints Analysis	$6,420
2. Noise Assessment	$6,900
3. Air Quality Assessment	$5,340
4. Greenhouse Gas Assessment	$5,040
Total	**$17,280**

Mestre Greve Associates is now part of Landrum and Brown, Inc. Any contracts should be addressed as Landrum and Brown operating through its division, Mestre Greve Associates.

If you have any questions or need any other information, please do not hesitate to call.

Sincerely,
Mestre Greve Associates
Division of Landrum and Brown

Matthew B. Jones, P.E.
Project Manager

APPENDIX C

SUBCONSULTANT RESUMES

ALTHOUSE AND MEADE, INC.

LynneDee Althouse

Vice President and Principal Scientist

ALTHOUSE AND MEADE, INC.

BIOLOGICAL AND ENVIRONMENTAL SERVICES
1875 Wellsona Road
Paso Robles, CA 93446
805-467-1041
LynneDee@althouseandmeade.com

Education

1995-1999. University of California Santa Barbara. (Ph.D. Candidate status 11/98). Doctoral student studying ecosystem processes in the Ecology, Evolution, and Marine Biology Department. Josh Schimel, supervising associate professor.

California Polytechnic State University San Luis Obispo.

Master of Science in Biology, Ecological Studies, advised by V.L. Holland, December 1987 GPA 3.86

Bachelor of Science in Biology, March 1979; GPA 3.60 *Graduated with Highest Honors*

Studies included entomology and advanced entomology, plant taxonomy, field botany, fisheries biology, and soil science.

Training (partial list)

2009 California Coastal Law, CLE International, Los Angeles, CA. March.

2009 California Wetlands, CLE International, San Francisco, CA. February.

2008 Classification of Vernal Pool Plant Communities, CNPS Plant Science Training Program and Institute for Environmental and Ecological Research, with Instructors: Michael Barbour, Ayzik Solomeshch, Stephen Rae, Josie Crawford, and Jennifer Buck. Davis, CA. May.

2008 NEPA SuperConference, CLE International, Los Angeles, CA. March.

2006 Grass Identification Workshop, Jepson Herbarium with Instructor: Travis Columbus. May.

2005 Ranch Water Quality Short Course. U.C. Cooperative Extension. Royce Larsen, lead presenter. June.

2003 Conservation Planning and Training, Part 2. USDA, NRCS one-week course in Sacramento, CA. Taught by numerous presenters including Diane Holcomb, Mark Parson, Daniel Mountjoy, and Alan Forkey. December.

2000 Ranch Water Quality Planning. U.C. Cooperative Extension. Royce Larsen, lead presenter. Winter.

1999 Creek Restoration: Ann Riley's Workshop, Santa Barbara, CA. October.

1996 Teton Science School: River processes, fluvial geomorphology. Taught by Professor Luna B. Leopold. July.

Honors and Fellowships

Excellence in Research Award, recognizing work on carbon and nitrogen analysis in soils, Ecology Evolution and Marine Biology Department, UCSB, August 1997.

Storke Award: Dissertation Support Fellowship, Ecology, Evolution, and Marine Biology Department, UCSB, December 1998.

Departmental Regents Fellowship: Department of Ecology, Evolution and Marine Biology, UCSB, May 1999.

Grant Support

Effects of Grazing on Water Quality: Microbes as Indicators and Mediators of Disturbance. Grant from the Integrated Hardwood Range Management Program, UC Berkeley.

Soil Observatories Project: Study of vadose zone microbial and nutrient flux patterns and processes, National Science Foundation, tuition support.

Publications

Gessler, P.E. O.A. Chadwick, F. Chamran, L. Althouse, and K. Holmes. 2000. Modeling soil-landscape and ecosystem properties using terrain attributes. Soil Science Society of America Journal 64:2046-2056.

Borchert, M.A., F.W. Davis, J. Michaelsen, and L.D. Oyler. 1989. Interactions of factors affecting seedling recruitment of blue oak *(Quercus douglasii)* in California. Ecology: 70(2) 389-404.

Oyler [Althouse], L.D. 1987. Factors Affecting Establishment and Survival of *Quercus douglasii* [Blue Oak] Seedlings. Master's Thesis, California Polytechnic State University, San Luis Obispo.

Althouse, L.D. R. A. Oyler, S. B. Stark. 1977. Factors Affecting Chironomid [Midge] Abundance in Laguna Lake. Senior Thesis, California Polytechnic State University, San Luis Obispo.

Experience

Synopsis

LynneDee Althouse, M.S. is a watershed ecologist and restoration specialist with over 20 years of experience conducting biological and general environmental surveys and supervising restoration projects. She owned and operated her own consulting business for 13 years, and merged her business with Daniel E. Meade, consulting biologist, to form Althouse and Meade, Inc. Biological and Environmental Services in 1999. Ms. Althouse conducts surveys and restoration projects primarily in Santa Barbara, San Luis Obispo, Kern, Monterey, and Ventura Counties. She supervises and coordinates surveys and regulatory permit compliance

throughout California, particularly for railroad maintenance projects. Prior to her biological consulting career, Ms. Althouse taught K-12 for seven years. At the end of her tenure as a teacher, she participated in a National Science Foundation program to educate teachers how to use their schoolyards to teach ecology. Ms. Althouse taught Biological Principles of Conservation Planning at UC Santa Barbara in the Environmental Studies Department. She also taught an introductory soils laboratory at California Polytechnic State University, San Luis Obispo, California. Ms. Althouse shares her rich teaching, research, and consulting experiences with clients, students, agencies, and colleagues. She enjoys mentoring younger biologists and soil scientists, and training engineers and managers about the biological environment. LynneDee enjoys helping people design projects and practices that protect the environment and comply with environmental regulations.

1999 to present – Principal Scientist, Althouse and Meade, Inc. Biological and Environmental Services. Consultant to agencies, private firms and individuals who govern, own, or manage properties in California. Develop water quality plans, riparian enhancement installations, biofilters, intercrop soil protection, and wildlife corridor enhancement plans. Conduct biological surveys for sensitive plant and animal species and supervise preparation of biological reports. Coordinate and process permit applications packages for state and federal regulatory agencies such as the State Water Resources Control Board, Regional Water Quality Control Board, California Department of Fish and Game, and U.S. Army Corps of Engineers. Work with U.S. Fish and Wildlife Service and National Marine Fisheries to facilitate preparation of Biological Opinions during their consultation process with the Corps of Engineers. Facilitate environmental compliance. Supervise permit compliance monitoring (especially CEQA and NEPA).

2000 to 2002 Principal Investigator. Researching Agricultural Impacts to Water Quality on three watersheds in San Luis Obispo County – a cooperative project with UC Cooperative Extension (Royce Larsen, watershed advisor) and owner/operators of the Santa Margarita Ranch.

1995-1999 Research Assistant and Doctoral Student at UC Santa Barbara. Topic: "The Fate of Nitrate in an Oak Savanna", a watershed ecology project involving non-point source pollutants. Primary research tools include Flow injection analysis for NH4, NO3, PO4 using Lachat Autoanalyzer (AE System); Shimadzu Gas Chromatography for CO2, N2O, CH4; C&N analysis using Fisson Instruments (Carlo-Erba) machine; AA Spectroscopy for elemental analysis of water samples; Infra-red gas analysis (IRGA) field system for determining ecosystem gas flux; TDR (Time domain reflectometry) to determine % soil moisture in the field; remote lysimetry for collecting soil water samples; stream, well, spring water sampling techniques; general lab wet chemistry for soil and water sample analysis; and grassland clip plot techniques to study ecosystem

processes controlled by microbial activity; Digital Elevation Modeling techniques using GPS (global positioning system), GIS (geographic information system) and Arc-Info (software) presentations for spatial data analysis. Completed first chapter of dissertation, advanced to candidacy, and did not complete her dissertation due to consulting commitments.

2000 – 2001 Lecturer, Biological Principles of Conservation Planning at UC Santa Barbara, Environmental Studies program. (ES 140: Biological Principles of Renewable Resource Management; an upper-division course).

2000 Presenter at Ecological Society of American annual meeting in Snowbird, Utah. Topic "Hillslope controls on above-ground productivity".

1988 – 1999 Doveco Biological Surveys (a.k.a. Lynne Dee Oyler, owner). Consultant to Union Pacific Railroad, The Nature Conservancy, Bureau of Land Management, Camp Roberts Military Base, UNOCAL, and private firms and individuals owning property from Ventura to Monterey Counties. Conduct botanical and biological assessments, wetland delineations, project environmental compliance monitoring. Produce mitigation plans and document support for environmental impact analysis. (List of some consulting reports follows this section).

1998 Presenter at Soil Science Society of America meeting in Baltimore, MD. Topic "Hillslope Controls on Microbial Processes in an el Niño Year".

1998 Guest lecturer for Microbial Ecology class at Cal Poly State University.

1998 Guest lecturer (three lectures) for ES 13, the Biological Environment.

1996- 1997 Teaching Assistant for Environmental Studies class "The Biological Environment" for two quarters; lead TA Spring of 1997. Coordinated teaching assistants, worked with professor to develop materials and curriculum for undergraduate course in environmental studies. A number of students in my class later came to enthusiastically assist with my field and lab work.

1996 NAAEE participant: Working group participant connecting agencies, organizations, and schools to improve schoolyard habitats and environmental studies in grades K-12. Environmental educators meeting in Burlingame, CA. NSF/EPA grant.

1997 SES (Soil Ecology Society) poster presenter: Microbial Response to Rapid Wetting/Drying Events in California Oak Savanna.

1996 AIBS presenter: Connecting biologists and elementary school teachers. Workshop for biologists at the annual AIBS meeting in Seattle, Washington. EPA grant.

1996 ESA presenter: Connecting ecologists and elementary school teachers. Workshop for ecologists at the annual Ecological Society meetings in Providence, Rhode Island. EPA grant.

1996 Video Narrator: The Burton Mesa Chaparral, a Natural Wonder. Assisted with the development and production of a video describing a local

sensitive vegetation type. Local California Native Plant Society and Lompoc Valley Horticultural and Botanical Society grant.

1994 to 1996 National Science Foundation/Institute of Ecosystem Studies Grant. Presenting summer institutes/workshops with Dr. V.L. Holland at CPSU on School Yard Ecology for Elementary School Teachers (SYEFEST). Networking with teachers and ecologists in 14 states to develop school yard ecology programs and support materials.

1992 to January 1995 Elementary Classroom Teacher. San Miguel School District.

1980 - 89 Teacher. Shandon Unified School District. Grades K-12.

1979 - 80 Graduate Student. CPSU. Ranch Hand. Shell Creek Ranch, Shandon.

1976 - 78 Phenologist/Range Technician. Seasonal employee for the Bureau of Land Management (BLM) in Wyoming and Colorado working on National Resource Defense Council (NRDC) projects. Conducted vegetation/soil/phenology studies related to range management practices. Worked for BLM when not enrolled in the university.

1976 - 78 Trail Guide/Naturalist. Led nature walks and camp fire activities from fall to spring, for Kern County's Environmental Education Program, Montana de Oro, San Luis Obispo County.

Jason David Dart

Senior Biologist

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1875 Wellsona Road
Paso Robles, CA 93446
805-467-1041
Jason@althouseandmeade.com

Education

1991 to 1995	University of California, Santa Barbara B.A., Cultural Anthropology and Religious Studies double major
1998 to 1999	Santa Barbara City College Coursework in biological sciences

Relevant Course Work & Field Training

1991 to 1992	UCSB: Chemistry
1994	UCSB: Aquatic Biology
1995	UCSB: Island Biogeography
1998	SBCC: Flowering Plant Identification
1998	SBCC: Botany
1998-1999	Monarch Butterfly tagging. Methods of wing tagging and monitoring. Instructor: Daniel E. Meade, Ph.D.
1999	SBCC: Nature Photography
1999	SBCC: Natural History
1999	Creek Restoration: Ann Riley's Workshop, Santa Barbara, CA. October.
2001	Grass identification workshop at UCSB Sedgewick Reserve. Instructor: Wayne Ferren
2002-2003	Forty plus hours of field training with Paul Collins, Curator of Vertebrate Zoology at the Santa Barbara Museum of Natural History.
2006	California Red-legged Frog Workshop at Los Vaqueros Watershed District. Two days, 1 night. Instructors: Norm Scott, Ph.D. and Galen Rathbun, Ph.D.
2006	Flora of San Luis Obispo County Workshop. Instructor: Dave Keil, Ph.D.
2007	*Chorizanthe* workshop at UCSB Sedgewick Reserve. Plant taxonomy and identification. Instructor: James Reveal, Ph.D.
2008	*Compositae* (Daisy family, especially Tarweeds) workshop at Jepson Herbarium, UCB. Instructor: John Strother, Ph.D., and Bruce Baldwin, Ph.D.
2008	Southwestern willow flycatcher survey protocol training, U.S. Fish and Wildlife Service, Albuquerque, NM. Instructors: Debra Hill, USFWS, Mark Sogge, USGS, Darrell Ahlers, USBR.

2009 California Tiger Salamander Workshop at Los Vaqueros Watershed District. One day, one night. Instructor: Peter Trenham, Ph.D.

2009 Small mammal trapping with Paul Collins, Curator of Vertebrate Zoology at the Santa Barbara Museum of Natural History.

Permits Held

California Department of Fish and Game Authorization to Collect Voucher Specimens of State-listed Endangered, Threatened, and Rare Plants
Permit #2081(a)-09-37-V, Jason Dart, valid through Jan. 31, 2012

California Department of Fish and Game 2009 Scientific Collecting Permit
SCP Permit #10611, valid through June 29, 2011

Relevant Work History
1998 to Present

Senior Biologist, Althouse and Meade, Inc., Paso Robles, California.

Primary responsibilities are associated with managing various research, survey, assessment, permit, and mitigation projects. Conduct field work, coordinate with clients and agencies, produce maps, and write documents. Experience includes:

- Large-scale biological inventories, vegetation mapping and sampling
- Wildlife and botanical surveys for numerous federally listed species
- Permitting process for CEQA, CDFG, USACE, RWQCB, CCC, and local governments
- All facets of habitat restoration: write and implement mitigation monitoring plans, create planting plans, design seed mixes, propagate native species
- Write botanical, biological, protocol survey reports, constraints, mitigation, and wetland delineation reports

Wildlife Spotlight Experience

Over 125 hours of wildlife spotlighting experience in San Luis Obispo County. Observed and correctly identified San Joaquin kit fox, red fox, coyote (including juveniles), and gray fox during spotlight surveys. Observed San Joaquin kit fox pair in Bitterwater Valley, July 2003 during spotlight survey. Familiar with canid identification. Considered an assistant kit fox biologist by U.S. Fish and Wildlife Service (2007). Observed and photographed California red-legged frog, bullfrog, Western toad, Western spadefoot toad, and Pacific chorus frog.

Protocol Survey Experience

Qualified and approved to conduct protocol level surveys for the California red-legged frog, the American Bald Eagle, the blunt-nosed leopard lizard, and the San Joaquin kit fox. Skilled at wildlife observation and monitoring, and very experienced in identification of difficult taxa. Understands the complexities of survey protocols and is able to distill information from field surveys into written reports. Produced numerous California red-legged frog protocol survey reports accepted by U.S. Fish and Wildlife Service and lead agencies.

Project Experience - partial list of documents prepared

The following list includes field work and document preparation with a partial list of completed documents. All documents were produced by Althouse and Meade, Inc. (Biological Reports include wildlife surveys).

Biological Report for the Topaz Solar Farm. California Valley, Carrizo Plains, San Luis Obispo County, California. Final Report in Preparation.

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey for Unnamed Drainage, San Simeon, CA. September 2009 (in preparation).

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey for Righetti Property, San Luis Obispo Count, CA. July 2009

California Red-Legged Frog (*Rana draytonii*) Site Assessment Protocol Survey Sylvester Winery, Paso Robles. April 2009.

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey Habitat Assessment for Santa Ysabel Ranch, Templeton, CA. February 2009.

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey Galatea Winery, Arroyo Grande Creek and adjacent ponds upstream from Lopez Lake. August 2008.

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey Cuyama River, Twitchell Dam, Santa Maria, Santa Barbara County. June 2008.

Biological Report for the Shandon Community Plan Update Area (SCPUA), Shandon, San Luis Obispo County. May 2008.

San Joaquin Kit Fox Survey using the Protocol for the Northern Range, Survey Results Report for the Shandon Community Plan Update Area (SCPUA), Shandon, San Luis Obispo County. January 2008.

California Red-legged Frog for Vesting Tentative Tract 2755, See Canyon, San Luis Obispo County., CA. Oct. 2007.

Preliminary Botanical Report for a portion of the Casmalia Mineral Fee Lease, 05LUP-00002-0215, APN 113-270-011, Casmalia, Santa Barbara Co., CA. Oct. 2007.

Preliminary Botanical Report for the Casmalia Catch Basins Property, Casmalia, Santa Barbara County, California. October 2007.

Biological Report for the Vogt Property - Highway 46 West at Dover Canyon, APN 014-271-031, Paso Robles, San Luis Obispo County, California. October 2007.

Biological Report for the Camp Nacimiento Foundation, ±600 acres on Lynch Canyon Road, Lake Nacimiento, San Luis Obispo County, California. September 2007.

The Still Parcel Wildlife Surveys. Bitterwater Valley, San Luis Obsipo County, California. Approximately 750 acres. August 2007.

Biological Report for the Atascadero Mutual Water Company Recharge Ponds, APN 049-011-003, City of Atascadero, San Luis Obispo County, California. September 2007.

California Red-legged Frog (*Rana aurora draytonii*) Protocol Survey for Cold Canyon Landfill: Expansion Project, 2268 Carpenter Canyon Road, San Luis Obispo County, California. August 2007.

Biological Report for 1790 and 1830 North Jameson Lane, APN 007-340-009, Montecito, Santa Barbara County, California. August 2007.

Biological Report for the Santa Margarita Cemetery Expansion Project, APN 070-091-037, Santa Margarita, San Luis Obispo County, California. July 2007.

Biological Report for Cielo Azul, 8250 Webster Road (Highway 229), APN 043-281-022 and 043-281-046, Creston, San Luis Obispo County, California. July 2007.

Biological Report for the Giannini Project, APN 068-401-007 and -011, Morro Bay, San Luis Obispo County, California. June 2007.

Arroyo Toad (*Bufo californicus*) Protocol Habitat Survey Site Assessment for the Fox Hollow Sports Facility, APN 025-371-019, Paso Robles, San Luis Obispo County, California. June 2007.

Biological Report for River Oaks II and College Station, City of El Paso de Robles, San Luis Obispo County, California. June 2007.

Biological Report for 9301 Santa Margarita Road, Lot 29, Block 105 3/MB/156, APN 059-241-021, Santa Margarita, San Luis Obispo County, California. June 2007.

Bald Eagle Protocol Survey for COAL 05-0219, Heritage Ranch, Paso Robles, San Luis Obispo County, California. May 2007.

Biological Report for Vesting Tentative Tract 2755, See Canyon, San Luis Obispo County, California. May 2007.

Biological Report for the Golden Hill Senior Community, 2450 Golden Hill Road, City of El Paso de Robles, San Luis Obispo County, California. May 2007.

Biological Report for Cold Canyon Landfill: Expansion Project, 2268 Carpenter Canyon Road, San Luis Obispo County, California. May 2007.

Biological Report for an Outdoor Recreational Resort, APN 025-431-037, -038, and -039, Golden Hill Road, City of El Paso de Robles, California. April 2007.

Monarch Butterfly Report for 1790 and 1830 North Jameson Lane, APN 007-340-009, Montecito, Santa Barbara County, California. April 2007.

Proposed Mitigation Monitoring and Reporting Plan for Obispo Indian Paintbrush, Cold Canyon Landfill: Proposed Expansion, APN 044-261-047, -048, and -011, San Luis Obispo County, California. April 2007.

Biological Report for the Proposed Pacific Coast Hotel, 105 West Grande Avenue, APN 060-201-009, Grover Beach, San Luis Obispo County, California. Feb. 2007.

Bald Eagle Habitat Assessment of Lot 27, Tract 2162-1 at Oak Shores Estates, Lake Nacimiento, San Luis Obispo County, California. February 2007.

Biological Report for Cold Canyon Landfill Grading Permit: Soil Excavation Project on a portion of APN 044-261-047, Carpenter Canyon Road, San Luis Obispo County, California. February 2007.

Biological Report for the Fox Hollow Sports Facility, APN 025-371-019, Paso Robles, San Luis Obispo County, California. October 2006.

Biological Report for the Stolo Family Winery, 3770 Santa Rosa Creek Road, Cambria, San Luis Obispo County, California. October 2006.

Biological Report for COAL 05-0219, Heritage Ranch, Paso Robles, San Luis Obispo County, California. September 2006.

Biological Report for Parcel Map PR 04-0133, APN 025-436-029, and -030, Paso Robles, San Luis Obispo County, California. August 2006.

Vineyard Ecology: A Comparative Study of Species Diversity and Abundance Between Production Vineyard and Cattle Grazing Landscapes. August 2006.

Wildlife Surveys, Bitterwater Valley, Grant, Twisselman, C. Grant properties. Conducted with Paul Collins, SBMNH, and Sam Sweet, UCSB, and Dan Meade. May 2006.

Biological Report for APN 040-211-027 and -028, Creekside Ranch Road, Templeton, San Luis Obispo County, California. May 2006.

Wildlife Surveys, Bitterwater Valley, Grant, Twisselman, C. Grant properties. Conducted with Paul Collins, SBMNH, Sam Sweet, UCSB, and Dan Meade. April 2005.

California Red-Legged Frog (*Rana aurora draytonii*) Protocol Survey, Garcia Road, Atascadero. June 2005.

Biological Assessment for Vesting Tentative Tract 2428, 27 acres of the 98 acre parcel, APN 076-331-015, City of San Luis Obispo, San Luis Obispo County, California. July 2005.

Biological Report for Airport Road Business Park, LLP, Parcel Map PR 04-0078, Paso Robles, San Luis Obispo County, California. June 2005.

California Red-Legged Frog (*Rana aurora draytonii*) Protocol Survey Honolulu Avenue, Oceano. June 2004.

Inventory of Wildlife and Plant species on the six Rancho Parcels of the Santa Margarita Ranch. June 2003.

California Red-Legged Frog (*Rana aurora draytonii*) Protocol Survey on the Margarita Farms Property, COAL 00-0292, Santa Margarita, San Luis Obispo County, California. June 2003.

Palo Prieto Conservation Bank, Spotlight Surveys for San Joaquin Kit fox, San Luis Obispo County, California. July 14, August 15 and 21, 2003.

Monarch Butterfly Over-wintering Sites in Santa Barbara County. Prepared for the County of Santa Barbara, published in 1999 by D. Meade.

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1875 Wellsona Road • Paso Robles, CA 93446 • Telephone (805) 467-1041 • Fax (805) 467-1021

LynneDee Althouse, M.S.
(805) 459-1660 (cell)
lynnedee@althouseandmeade.com

Daniel E. Meade, Ph.D.
(805) 705-2479 (cell)
dan@althouseandmeade.com

Althouse and Meade, Inc.
Biological Reports

Althouse and Meade, Inc. Biological Report for the City of Grover Beach Train Station Expansion Project. Prepared for City of Grover Beach., CA. September 4, 2009.

Althouse and Meade, Inc. Biological Report for the Proposed Pacific Coast Hotel, 105 West Grand Avenue, APN 060-210-009, Grover Beach, San Luis Obispo County, California. Prepared for Cobalt Construction, Grover Beach, CA 93446 February 2007

Althouse and Meade, Inc. Biological Report for Epoch Winery, approximately 48 acre portion of APN 026-293-029 & -030, 2555 Peachy Canyon Road, San Luis Obispo County, California. Prepared for Armstrong Vineyards, Inc. Denver, CO 80202 August. 2009

Althouse and Meade, Inc. Biological Report for the Cross Canyon Vineyard Subdivision: Vesting Tentative Parcel Map 09-0023. Prepared for Cross Canyon Vineyard, LLC. Paso Robles, CA. July 2009

Althouse and Meade, Inc. Biological Report for Cold Canyon Landfill: Proposed Expansion. Prepared for Cold Canyon Landfill. San Luis Obispo, CA. August 2006

Client References

City of Atascadero

Contact: Geoff English, Deputy Director of Public Works Department
6907 El Camino Real, Suite 6
Atascadero, CA 93422
Telephone: (805) 470-3142
Email: genglish@atascadero.org

City of Grover Beach

Contact: Bruce Buckingham, AICP, Community Development
154 South 8th Street
Grover Beach, CA 93433
Telephone: (805) 473)4520
Email: bbuckingham@grover.org

City of San Luis Obispo

Contact: Neil Havlik, Ph.D., Natural Resources Director
City of San Luis Obispo
990 Palm Street
San Luis Obispo, CA 93401
Telephone: (805) 781-7211
Email: nhavlik@slocity.org

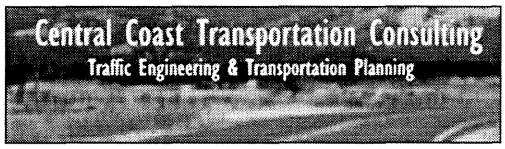
City of Santa Maria

Contact: Steve Kahn, P.E., Utilities Engineer
City of Santa Maria Utilities Department
2065 East Main Street
Santa Maria, CA 93454
Email: skahn@ci.santa-maria.ca.us

City of Santa Barbara

Contact: Michael Berman, Planner
City of Santa Barbara Community Development Department
630 Garden Street
Santa Barbara, CA 93101
P.O. Box, 1990 93101
Telephone: (805) 564-5470
Email: mberman@santabarbaraca.gov

CENTRAL COAST TRANSPORTATION CONSULTING



Joe Fernandez, PE, AICP

Summary

Mr. Fernandez has worked as a transportation planner and traffic engineer in California since 2002. He has successfully managed dozens of complex studies including transportation impact analyses, travel demand forecasting, traffic operations studies, traffic engineering design, and multimodal planning studies. As both a Certified Planner and Professional Engineer, he specializes in the development of solutions that are both technically sound and fitting with a communities' planning principles.

Career History

Principal, *Central Coast Transportation Consulting* — *2011-Present*

- Founder and lead project manager.
- Responsible for project scoping, budgeting, schedule adherence, and overall client satisfaction.

Senior Engineer/Planner, *Fehr & Peers Transportation Consultants* — *2004-2010*

- Served as project manager for complex transportation projects. Responsible for project scoping, budgeting, schedule adherence.
- Led companywide multi-modal level of service research effort.
- Responsible for technical analysis and quality control for a wide variety of projects, including traffic operations, travel demand forecasting, multi-modal planning, and traffic engineering design.

Transportation Planner, *San Luis Obispo Council of Governments (SLOCOG)* — *2003*

- Assisted with Regional Transportation Plan, transit unmet needs analysis.

Planning Intern, *City of Arroyo Grande* — *2002*

- Prepared staff reports, assisted in bike plan update.

Education

Master of Science, Civil Engineering — *2004*
California Polytechnic State University, *San Luis Obispo, CA*

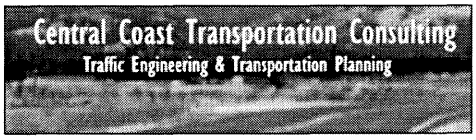
Master of City and Regional Planning — *2004*
California Polytechnic State University, *San Luis Obispo, CA*

Bachelor of Science, Civil Engineering — *2002*
Vanderbilt University, *Nashville, TN*
Graduated magna cum laude.

Awards and Publications

- Award of Excellence: Central Coast APA, City of Paso Robles Circulation Element
- Transportation Excellence Award, Transportation Agency of Monterey County, Seaside West Broadway Specific Plan
- Neighborhood Planning Award, NorCal APA, Seaside West Broadway Specific Plan
- *Network Planning: Developing a Multimodal Approach,* ITE Journal, September 2009 issue
- *Achieving Sustainable Results: Public-Private Efforts and Coordination,* California APA Annual Conference, 2008
- *Another Case Against Roadway Widening: This Time It's For Drivers*, ITE District 6 Annual Conference Paper, 2006

(805) 316-0101
www.cctransconsulting.com



Ron Marquez, PE, TE

Summary

Mr. Marquez has over 40 years of experience as a professional in the transportation field in both the public and private sectors. He has spent 23 years in the public sector, most recently as the manager of the Traffic Engineering, Parking, and Traffic Maintenance division of the City of Santa Cruz. He also managed the Traffic Engineering section of the City of Campbell, and served as the Executive Director of the Santa Cruz Regional Transportation Commission. He has 17 years of experience as a transportation consultant in California. This unique combination of public and private sector experience is invaluable when developing solutions to satisfy diverse stakeholders. Since his retirement from public service in 2003, he has consulted on select projects in California.

Career History

Principal, *Marquez Transportation Engineering*

- Teams with CCTC to provide experienced review and input.
- Provides project oversight and review of key transportation issues and deliverables.
- Served as on-call traffic engineering consultant to the Cities of Capitola and Santa Cruz.

Traffic Engineering Division Manager, *City of Santa Cruz and City of Campbell*

- Managed the Traffic Engineering Division of the Public Works Department for both cities.
- Managed the Parking and Traffic Maintenance sections for the City of Santa Cruz.

Executive Director, *Santa Cruz Regional Transportation Commission*

- Responsible for staff of eight and budget of $4,000,000.
- Agency Director for four of the thirteen years employed at the SCRTC.

Principal, *Ergo Engineering*

- Firm founder and principal for nine years.
- Served Cities of Watsonville, Capitola, Santa Cruz, and numerous private entities.

Education

Master of Science, Civil Engineering
***San Jose State University**, San Jose, CA*

Bachelor of Science, Civil Engineering
***San Jose State University**, San Jose, CA*

Memberships &Registrations

- Member, Institute of Transportation Engineers
- Registered Professional Traffic Engineer in California (#1457)
- Registered Professional Civil Engineer in California (#26302-retired)

CULTURAL RESOURCE MANAGEMENT SERVICES (CRMS)

CULTURAL RESOURCE MANAGEMENT SERVICES

NANCY FARRELL

829 Paso Robles Street
Paso Robles, California 93446

(805) 237-3838
(805) 237-3849 FAX
nancy@crms.com

Present Position

President: Cultural Resource Management Services (CRMS)

Education and Training

B.A., Anthropology, University of California, Los Angeles, 1968.
Graduate study in Anthropology and Archaeology, UCLA, 1972-74.
Continuing education includes: Federal Projects and Historic Preservation Law (Advisory Council on Historic Preservation); Cultural Resources and the National Environmental Protection Act (U. of Nevada); Native American Graves Protection and Repatriation Act: Implications and Practical Applications (U. Nevada); Health and Safety Training for Hazardous Site Workers Certification (OSHA); U.S. Ordnance and Explosives Safety Workshop (Corps of Engineers); Contracting for Historical and Archeological Services (COE); Federal Archeological Program Management Course (National Park Service); Recording Historic Structures (National Preservation Institute); Munitions Response Historical Record Review, Interstate Technology and Regulatory Council (ITRC).

Professional Experience

2010: *Principal Investigator (P.I)*: archival research for Historical Ordnance Assessment for Guam and Tinian, CNMI; archival research for Formerly Used Defense Site at Pago Bay, Guam; preparation of historic properties booklet for US Army Garrison Hawaii; co-author of volume on "Cultural and Natural History of US Army Garrison Lands in the Hawaiian Islands.
2007-2009: *P.I*: development of a Preservation Plan for Peleliu Battlefield National Historic Landmark, Republic of Palau; oral historical documentation of World War II and post war construction on Guam and Tinian; archival research, Ilio Point Bombing Range, Molokai.
2005- 2006: *P.I.*: historical evaluation of properties in San Luis Obispo County; construction monitoring at SLO-165, Morro Bay; archaeological mitigation excavations at SLO-2359, Heritage Ranch, San Luis Obispo County; archaeological mitigation excavations at SLO-2289, Templeton; archaeological evaluation for Upper Salinas River Corridor Enhancement Project trail; archival, oral historical and field research for historic military resources at Schofield Barracks, Wheeler Army Air Field, Dillingham Military Reservation, Pōhakuloa Training Area, Kīlauea Military Camp, and Kahuku Training Area, Hawai`i.
2004 *Project Manager (PM)*: archaeological testing of nine sites at Camp Roberts and Camp San Luis. *P.I.*: archaeological test excavations at SLO-2289, Templeton; archaeological inventory, monitoring and excavations at RIV-676, Indio.

2003 *P.I.:* archival research at locations in continental U.S. investigating formerly used defense sites (FUDS) on Guam, M.I.; archaeological monitoring at Treebones Camp, Big Sur; archaeological inventories, test excavations and monitoring in Monterey, Kings and San Luis Obispo Counties.
2002 *P.I.*: archaeological monitoring during construction of roads and utilities at Santa Ysabel Ranch, Paso Robles; archival research at locations in continental U.S., investigating formerly used defense sites (FUDS) on Guam, M.I.; archival research of WWII resources at Blythe Energy Project plant expansion, Blythe, Riverside County.
2001 *P.I.:* test excavations at proposed new business school, Santa Clara University, Santa Clara; historic structures inventory and archaeological test excavations at a portion of CA-SLO-64/H, City of San Luis Obispo; data recovery excavations at SLO-1254, Nipomo and SLO-1914/H, Cayucos; construction monitoring at Deer Creek Estates, King City, Monterey County.
2000 *P.I.:* archaeological test excavations at a portion of CA-SLO-165, Morro Bay; archaeological test excavations at fourteen historic and prehistoric sites, Santa Ysabel Ranch, Paso Robles; archaeological monitoring at CA-SLO-804, Nipomo.
1999 *P.I.:* data recovery excavations at CA-SLO-809, Nipomo, for Vons Company; archaeological test excavations of historic rail line and prehistoric fishing camp at Hickam Air Force Base, Oahu; archaeological inventory of Golden Hills Subdivision, Paso Robles; archaeological and historic structures inventory of Santa Ysabel Ranch, Paso Robles.
1998 *P.I.:* preparation of Cultural Resources Management Plan for Bellows Air Force Station, Oahu, Hawaii, for 15th ABW, Hickam AFB; comprehensive historical archival and oral historical review of petroleum systems at Bellows Air Force Station, Oahu for OHM Remediation, Kailua, Hawaii; oral historical documentation of activities at the Presidio of Monterey through World War II, for City of Monterey, California. *P.M.*: oral historical documentation of Maluhia Hall, Fort DeRussy, Waikiki, for U.S. Army Garrison Hawaii.
1997 *P. I.:* archival historical and archaeological research on five formerly used defense sites on Oahu and Saipan Islands for Honolulu District Corps of Engineers; archaeological survey and evaluation of three Army Reserve Centers in southern California, for Sacramento District Corps of Engineers; development of a cultural resource management brochure for historical and archaeological resources at US Army Garrison properties, Hawaii. *P.M.:* archeological surveys at Schofield Barracks and Dillingham Field, Oahu for Honolulu District Corps of Engineers.
1996 *P.I.:* preparation of Historic Properties Management Plan, Bellows Air Force Station, Oahu, Hawaii, for Honolulu District Corps of Engineers; development of walking tour of historic Fort Kamehameha, Hickam AFB, Oahu, Hawai`i for Honolulu District Corps of Engineers; compilation of DERP/FUDS Inventory Reports from Hawai`i, American Samoa, Guam, Palau and Commonwealth of the Northern Marianas for Honolulu District Corps of Engineers; archaeological survey and preparation of EIR for Oak Tree Plaza development, Paso Robles for Dudek & Associates, Encinitas. *P.M.:* compilation of videotaped first hand accounts of U.S. Army survivors of the attack on Oahu, December 7, 1941, for Honolulu District Corps of Engineers.
1995 *P.I.:* compilation of first hand accounts of the survivors of the Battle of Wake Island, for the Honolulu District Corps of Engineers, under subcontract to Biosystems, Inc. Santa Cruz; archeological monitoring of fiber-optics cable installations, Vandenberg Air Force Base, for Western Missile and Space Command; archaeological monitoring for construction at Presidio of Monterey, for Sacramento District Corps of Engineers. *Historical archaeologist*: archeological testing and evaluation of the Garcia property sites, Edna Valley, San Luis Obispo Co.,

California Water Project, Coastal Branch, for Biosystems, Inc., Santa Cruz; intensive survey of Camp Roberts, San Luis Obispo County, under contract to Jones and Stokes, Sacramento.

1994-1995 *P.I.*: inventory of World War II archaeological remains in the Carolinas Kasitiyu area of Tinian, Commonwealth of the Northern Marianas, for the Honolulu District Corps of Engineers, under subcontract to Biosystems, Inc., Santa Cruz.; historic archaeological investigations for proposed Bee Canyon Mobile Home Park, Los Angeles County, for Sikand Engineering, Van Nuys; archaeological and historical investigations for construction of new housing at Camp Smith, Oahu, Hawaii, for the Honolulu District Corps of Engineers, under subcontract to Biosystems, Inc., Santa Cruz. *Field director (F.D.)*: comprehensive resource inventory and preservation planning study for World War II cultural resources at the U.S. Army Kwajalein Atoll, for the U.S. Army Space and Strategic Defense Command, under subcontract to Earth Technology Corporation, Huntsville, Alabama.

1993-1994 *P.I.:* archaeological curation inventory for the Presidio of Monterey for the Sacramento District Corps of Engineers; inventory and assessment of all excavated materials for compliance with the Native American Graves Repatriation Act. Archaeological and historical investigations for proposed closure of Punamano Air Force Station, Oahu, Hawaii for the Honolulu District Corps of Engineers, under subcontract to Biosystems, Inc., Santa Cruz.

1991-1992 *P.M.*: cultural resources investigations for San Diego Pipeline No. 6 South, for the San Diego County Water Authority, under subcontract to Keller Environmental Associates, San Diego; literature search, field survey, constraints analysis, technical report, preparation of sections of EIR. P.M. and F.D.: archaeological and historical investigations for San Diego Pipeline No. 6 (North), Riverside and San Diego counties, for the Metropolitan Water District of Southern California, under subcontract to Keller Environmental Associates; literature search, sensitivity analysis, field survey with Native American participation, development of Programmatic Agreement, mitigation plan and preparation of EIR/EIS sections.

1990-1991 *P.M.:* Cultural resources investigations for Westside Conveyance System, Ventura and Los Angeles counties, for the Metropolitan Water District of Southern California, under subcontract to Michael Brandman Associates, Los Angeles; literature search, sample survey, Native American coordination and constraints analysis.

P.I.: CRMS cultural resources investigations at Opihihali *ahupua`a*, Hawai`i, for proposed land division and development. *F.D.*: CRMS data recovery excavations at SBA-1514 in Summerland, Santa Barbara County, for private client.

1989-1990 *F.D.*: preliminary field investigations at four sites near the San Luis Rey River, San Diego County, for the Los Angeles District Corps of Engineers, under subcontract to Michael Brandman Associates, Los Angeles; mapping the distribution and density of surface artifacts with assistance of land surveyors, test auguring, data analysis, development of a detailed plan for subsequent test excavations and report preparation. *P.I. (*With Helen Wells): development of Historic Properties Management Plan for Mojave River Forks Dam, San Bernardino County, for the LA District Corps of Engineers. Tasks included a literature search, review and evaluation of previous investigations, field visit, interviews with local residents, impact assessment, development of prioritized recommendations for management of cultural resources and plan preparation.

1989 *P.I.* (with Helen Wells): preparation of research design to conduct site specific cultural resources investigations along San Luis Rey River, San Diego County, for LA District Corps of Engineers. Development of research design for test excavations at three prehistoric sites and one post-contact Luiseño site. Native American coordination was included and research design was approved by the California Office of Historic Preservation.

Laboratory director (LD.): California State University at Northridge summer school, San Clemente Island, Naval Air Station, North Island. *F.D.:* cultural resources investigation of the Silverado Marina RV Resort, Needles, San Bernardino County, as required for a Corps of Engineers 404 permit; test excavations at SBA-1514, an Early period site in Summerland, for County of Santa Barbara; fieldwork with Native American monitors, artifact and data analysis, mitigation plan and report preparation.

1988-present *P.I.*: small cultural resources surveys, test and data recovery excavations in Santa Barbara, San Luis Obispo, Los Angeles, Orange, Kings, Monterey, Riverside, San Bernardino and Imperial counties; literature searches, archival and field investigations, artifact and data analysis, impact assessment, report preparation and coordination with local agencies.

1988 *Archaeologist*: Kwajalein Atoll survey and testing program, with Westec Services, San Diego, for the Corps of Engineers, Pacific Ocean Division. Duties included archival research, survey and test excavation of traditional Marshallese sites, and documentation and analysis of World War II features.

1982-88 *Archaeologist*: U.S. Army Corps of Engineers, Los Angeles District. Cultural resources management for a variety of civil works and military construction projects. Duties included:

- Design of archeological and historical studies including reconnaissance survey, significance evaluation, and mitigation measures such as avoidance or data recovery.
- Conducting cultural resources literature searches, reconnaissance, survey and test excavations for prehistoric and historic sites in southern and central coast California, Arizona, Nevada and New Mexico.
- Preparation of reports on the results of these studies.
- Preparation of scopes of work for cultural resources contracts, review of proposals, management of contract schedule, field logistics and level of effort, review of work plans, research designs and reports.
- Coordination cultural resources studies with the State Historic Preservation Offices in California, Arizona, and Nevada and with the Advisory Council on Historic Preservation. Coordination of studies with state and local agencies.
- Impact assessment for Environmental Assessments and Environmental Impact Reports.
- Preparation and coordination of Historic Preservation Plans, Cultural Resource Management Plans and Memoranda of Agreement for cultural resources studies.

1979-82 *Archeologist*: U.S. Army Corps of Engineers, Los Angeles District Office at Vandenberg Air Force Base. Responsible for the implementation of the cultural resources management plan for the MX Missile test program at Vandenberg. Duties included preparation of scopes of work, field supervision of the cultural resources contractors, direction of daily archeological activities, coordination and planning with COE and Air Force engineers and environmental staff, coordination with construction personnel, production of monthly progress reports, and review of all work products produced under the contracts. Review of reports, scopes of work, and cost estimates for cultural resources studies for the MX missile system in the Great Basin. Obtained Antiquities Permit for work in Nevada and Utah.

1979 *Staff archaeologist*: California Department of Transportation, San Diego District office. Duties included survey of proposed project areas in San Diego, Riverside and Imperial Counties. Data recovery excavation of (SDI-7315), Rainbow, San Diego County. *F.D.:* test and data recovery excavations at (RIV-119,-158,-1180,-1838) La Quinta, Riverside County. *Archaeologist*: data recovery excavation of (Ora-119), Irvine; Survey and test excavations at sites on the Glenn Ranch, Orange County.

Research assistant: Bureau of Land Management publication on the occurrence of early man in the California desert, under the direction of Dr. E. L. Davis.
Museum technician: Archaeological Research Unit, University of California, Riverside, responsible for preparation of data for the California state archaeological site survey.
1978 *Consulting archaeologist*: Wirth Associates, San Diego. Prepared cultural resources reports for projects throughout southern California, including the Sundesert Nuclear Power Plant and transmission lines; prepared proposals; provided ethnobotanical background for an ethnographic overview of San Diego County.
F.D.: cultural resources survey of Ulithi Atoll, Yap District, Western Caroline Islands. Survey of capital improvement projects on Yap, Western Caroline Islands. Survey of the Ugum River Valley, Guam, Marianas Islands. Test excavations at Fort San Jose, Umatac, Guam. Archival research at Micronesian Area Research Center, Guam, MI.
1976-77 *Archaeologist*: Bureau of Land Management, Desert Planning Staff, Riverside, California. Cultural resources surveys of federal lands throughout the California Desert Plan area. Additional duties included management of records, design of sample surveys, and coordination with Desert Planning staff technical specialists and with other federal agencies. Assisted with scopes of work for additional surveys and cultural resources overviews. Produced interim reports for the California Desert Plan, Cultural Resources Section.
1976 *P.I.*: survey of proposed Batiquitos Lagoon Regional Park, San Diego County. Survey of tracts throughout San Bernardino County for the San Bernardino County Museum. Survey of the city of Yucaipa for Yucaipa Valley Water District, San Bernardino. *Archaeologist:* excavation of (Ora-197), Orange County. Survey of Southern California Edison Devers-Palo Verde transmission line from Indio to Blythe, Riverside County. *L.D.*: analysis of lithic materials from archeological sites throughout Orange County, for Archaeological Research, Inc.
1975-76 *Laboratory assistant*: UCLA Herbarium and Botanical Garden. Responsible for curation and maintenance of botanical collections.
1975 *Crew chief*: survey of Oat Mountain properties, Los Angeles County and Aliso Creek drainage, Orange County. *L.D.*: excavation of (Ven-340), Simi Valley, Ventura County.
Archaeologist: Davies Valley survey, San Diego County.
1973-75 *Crew chief*: intensive survey of properties proposed for development by the Westlake Corporation, Los Angeles and Ventura Counties.
1974 *Laboratory director:* Northridge Archaeological Research Center, for excavations at Van Norman Reservoir, Los Angeles County. *Crew chief*: survey of proposed expansion of Los Angeles International Airport, L A County. Surveys for Irvine Ranch Water District properties and Walker Basin area, Orange County. Survey of Indian Hills development, Simi Valley, Ventura County. Survey of Tuna Canyon watershed, Santa Mountains, L A County. Excavations at Snow Creek, Mammoth village, Mono County. *F.D.*: test excavations at (LAN-675), a coastal Chumash village near Zuma, LA County.
1972-74 *Survey Archaeologist*: UCLA Archaeological Survey. Responsible for personnel, budgets and logistics for fieldwork, direction of laboratory and analysis, field reconnaissance and excavations throughout southern California.
1973 *P.M.*: excavations at Torqua Cave and Little Harbor village (SCI-17), Santa Catalina Island. *Field director:* excavation of (Ven-47), Ventura County. Survey of Tujunga Wash, Los Angeles County.
1972-73 *Crew chief*: survey of various properties throughout the Simi Valley, Los Angeles Co.
Editor: UCLA Archaeological Survey *Annual Report.*

1972 *P.M.*: excavations of Maliwu village and cemetery, and at Nichols Canyon village (LAN-180) Los Angeles County. *Archaeologist*: Survey of proposed Southern California Edison transmission line from Hinkley to Barstow, San Bernardino County.
1971-73 *Archaeologist:* systematic surveys throughout the Santa Monica Mountains as part of the UCLA Archaeological Survey program.
1971 *Archaeologist*: survey of the Monache Meadows Recreation Area, Kern County.
1968-7 *Crew chief*: excavation of Big Springs site (ScaI-50), Santa Catalina Island. *Archaeologist*: excavations at Trancas Canyon village and cemetery and Big Tujunga village (LAN-167), Los Angeles County.
1966-68 *Laboratory assistant*: UCLA Department of Anthropology. *Archaeologist:* excavation of Medea Creek cemetery, Thousand Oaks, Ventura County. *Research assistant*: UCLA Department of Anthropology.

Membership in Professional and Avocational Societies

American Cultural Resources Association (Board Member 2005-2010)
Society for American Archaeology
Society of Architectural Historians
Society for Economic Botany
Society for Ethnobiology
Coast Defense Study Group
San Luis Obispo County Archaeological Society
Heritage Shared(Board Member 2004-2010)
Society for Historical Archaeology
Society for Hawaiian Archaeology
Indo-Pacific Prehistory Association
US/ICOMOS
Pacific Coast Archaeological Society

Selected Cultural Resources Reports

Historic Preservation Plan for the Peleliu Battlefield National Landmark, Republic of Palau. Prepared for Peleliu War Historical Society, funded by American Battlefield Protection Program. 12/2009.

Documentation of World War II Veterans First Hand Accounts for the Island of Tinian. Submitted to IARII and Department of the Navy. 11/2008

Documentation of World War Ii Veterans First Hand Accounts For the Island of Guam . Submitted to IARII and Department of the Navy. 11/2007

Archaeological Survey of a 40 Acre Parcel at 47327 Sapaque Valley Road, Bryson-Hesperia, Bradley, Monterey County, California [APN 424-251-009] Prepared for Kara Blakeslee.

Archaeological Inventory Survey for the Munak-Woodland Tentative Parcel Map Co-07-0057, Paso Robles, California [A Portion of APN: 020-012-018] Prepared for Pacific Coast Survey & Design Group, Inc. 2008

Archeological Survey for the Smith-Gardner Ag Cluster Edna Valley, San Luis Obispo County, California, [Apn: 044-233-012 and 044-233-014]. 2007

Archaeological Survey and Historical Evaluation of the Piedras Blancas Motel, San Simeon, San Luis Obispo County, California. Prepared for The Trust for Public Land. Co-author with Todd Hannahs. 2006

Monitoring Plan for Construction at Miners Hardware (a portion of SLO-165), Morro Bay. Prepared for Mike Miner. 2006

Archaeological Mitigation Plan for the Templeton Library (SLO-2289). Prepared for Templeton Community Library Association. 2006

Archaeological Assessment for the Cambria Community Services District Desalination Plant, Cambria, California. Prepared for Padre Associates. 2005

Cultural Resources Constraints Analysis for the Town of Shandon, San Luis Obispo County. Prepared for County of San Luis Obispo. 2005

Archaeological Assessment for Boulders West Development, Indio, California. Prepared for Boulders West, LLC. Co-author with Todd Hannahs. 2004

Archaeological Test Excavations at Santa Ysabel Ranch, Paso Robles, San Luis Obispo County, California. Prepared for Weyrich Development. Co-author with Nathan Stevens and Richard Fitzgerald. 2004

Archival Research: Formerly Used Defense Sites and Chemical Warfare Material Sites, Territory of Guam, USA. Prepared for Wil Chee Planning and US Army Corps of Engineers, Honolulu. 2003

Oral Historical Research Regarding Hazardous Substances Sites at Wake Island Air Field, Wake Atoll. Prepared for URS and 15th Air Base Wing Civil Engineer Squadron/Environmental Compliance, Hickam Air Force Base, Hawai`i. 2001

Subsurface Archaeological Investigations at 754 and 756 Palm Street, San Luis Obispo, California, a portion of CA-SLO-64/H, the "Mission San Luis Obispo"Site. 2001

Archaeological Test Excavations at CA-SLO-1914/H, Cayucos, San Luis Obispo. 2001

Archaeological Data Recovery at CA-SLO-809, Nipomo, San Luis Obispo, California. Co-author with R.T. Fitzgerald and J.M. Farquhar. Prepared for Vons/ Safeway. 2000

Cultural Resources Inventory of Santa Ysabel Ranch, Paso Robles, California. Prepared for Weyrich Development. 2000

Cultural Resources Constraints Analysis for the Nacimiento Water Pipeline. Prepared for County of San Luis Obispo. 2000

Phase 1 Cultural Resources Inventory of Tentative Tract 2281, Paso Robles, San Luis Obispo County, California. 1999

Historical and Archaeological Resources of the U.S. Army Garrison, Hawaii. 32 page brochure prepared for U.S. Army Garrison Hawai`i, Fort Shafter. 1999

Comprehensive Historical Review of Underground POL Systems at Bellows Air Force Station, O`ahu, Hawai`i. Prepared for OHM Remediation and 15th Air Base Wing Civil Engineer Squadron/ Environmental Compliance, Hickam Air Force Base, Hawai`i. 1998

Documentation of World War II Survivor's first hand Accounts for Hickam Air Force Base, Fort Kamehameha, Bellows Air Force Station, O`ahu Island, Hawai`i and Wake Island. 1997

Historical Trail Markers for Fort Kamehameha Heritage Trail, Hickam Air Force Base, Oahu. Prepared for 15th Air Base Wing, Hickam AFB.

Draft Cultural Resource Management Plan for Bellows Air Force Station, O'ahu Island, Hawaii. Prepared for U.S. Army Corps of Engineers, Honolulu. 1997

Archaeological Inventory of the Grossman Property, Shell Beach, San Luis Obispo County, California. Prepared for Coastal Community Builders, Shell Beach. 1997

Curation Needs Assessment for 15th Air Base Wing, Hickam Air Force Base, Oahu. Prepared for U.S. Army Corps of Engineers, Honolulu. 1997

Archaeological and Historical Resources Inventory and Evaluation, Oak Tree Plaza, Paso Robles, San Luis Obispo County. Prepared for Dudek & Associates. 1996

Archaeological Monitoring for Underground Storage Tank Removals at Presidio of Monterey, Monterey, California. Prepared for U.S. Army Corps of Engineers, Sacramento. 1996

Archeological Monitoring and Test Excavations for Fiber-Optics Cable Installations at Vandenberg Air Force Base. Prepared for Civil Engineers Office, Vandenberg AFB. 1996

Archaeological Survey and Testing of Prehistoric and Historic Remains for Support of Defense Environmental Restoration Program/Formerly Used Defense Site Investigations, Carolinas Heights, Island of Tinian, Commonwealth of the Northern Mariana Islands. Prepared for U.S. Army Corps of Engineers, Honolulu, under subcontract to Biosystems, Inc., Santa Cruz. Co-author with Jeannette Simons. 1995

Evaluation of Historic Resources within the Proposed Bee Canyon Mobile Home Park, Los Angeles County, California. Prepared for Sikand Engineering, Van Nuys. 1995

Inventory of Archeological Collections from the Presidio of Monterey, Monterey, California. Prepared for U.S. Army Corps of Engineers, Sacramento and Department of the Army, Fort Ord. 1994

Comprehensive Resource Inventory and Preservation Planning Study for World War II Cultural Resources at the United States Army Kwajalein Atoll. Prepared for U.S. Army Space and Strategic Defense Command under subcontract to Earth Tech, Huntsville, Alabama. Co-author with Carl Kuttruff and Jack Hudson. 1994

Archaeological Intensive Survey for the Proposed Family Housing Area at Camp Smith, O'ahu Island, Hawai`i. Prepared for U.S. Army Corps of Engineers, Honolulu, under subcontract to Biosystems, Inc., Santa Cruz. 1994

Archaeological and Historical Investigations at Punamano Air Force Station, Kahuku, Oahu, Hawaii. Prepared for U.S. Army Corps of Engineers, Honolulu, under subcontract to Biosystems, Inc., Santa Cruz. Co-author with Paul Cleghorn. 1993

A Preliminary Archaeological Inventory of TMK 1-5-009-0000-01, A Portion of Keonopoko Iki, Puna, Hawai`I Island. Prepared for Robert Stralka, Huntington Beach, California. 1993

Monrovia Nursery Project Cultural Resources Investigations. Prepared for Lewis Homes Management Corp., Upland, California. 1992

A Preliminary Archaeological Inventory of TMK 8-7-13: 6, A Portion of Opihihali 1, South Kona, Hawai`i. Prepared for Setnet Corp., Kenai, Alaska. Co-author with Helen Wells. 1991.

Archaeological Test Excavation at SL0-670, Cambria, San Luis Obispo County, California. Prepared for San Luis Obispo County Planning Department. 1991.

Archaeological Test Excavations at CA-SBA-1514. Prepared for County of Santa Barbara Resource Management Department. Co-author with Helen Wells. 1990.

Cultural Resources Management Plan for Mojave River Forks, San Bernardino, California. Prepared for U.S. Army Corps of Engineers, Los Angeles. Co-author with Helen Wells. 1990.

Phase I Cultural Resource Investigation of De Vries Property, Avila Beach, San Luis Obispo County, California. Prepared for San Luis Obispo County. 1990.

Historical Archaeological Monitoring Report for Peach Street Apartments, San Luis Obispo, California. Prepared for City of San Luis Obispo. 1989.

Research Design for Test Excavations at SDi-6013, 6014, 6015, 5130 and 5133, San Luis Rey River, Oceanside, California. Prepared for U.S. Army Corps of Engineers, Los Angeles District. Co-author with Helen Wells. 1989.

Historical Context. *In* Archaeological Reconnaissance Survey and Sampling, U.S. Army Kwajalein Atoll Facility (USAKA) Kwajalein Atoll, Republic of the Marshall Islands, Micronesia. Prepared for U.S. Army Corps of Engineers, Pacific Ocean Division. ERC Environmental and Energy Services. San Diego. 1989.

Cultural Resource Assessment of Twentynine Palms Marine Corps Air Ground Combat Center. U.S. Army Corps of Engineers, Los Angeles District. 1987.

Archeological Monitoring During Construction of the Hypergolic Storage Facility, Vandenberg Air Force Base. U.S. Army Corps of Engineers, Los Angeles District. 1985

Cultural Resources Survey of the Proposed Direct Fire Weapons Range, Yuma Proving Ground, Arizona: Preliminary Report. U.S. Army Corps of Engineers, Los Angeles District. 1984

Asan River Flood Control Project Supplemental Archeological Assessment, Asan, Guam. U.S. Army Corps of Engineers, Pacific Ocean Division. 1983

Archeological Investigations in the MX Missile Launch Site Area, Vandenberg Air Force Base. U.S. Army Corps of Engineers, Los Angeles District. 1982

A Preliminary Report of the Archaeological Salvage Project: La Quinta Evacuation Channel. Prepared for Coachella Valley Water District. ARM Corporation, Garden Grove, California. Co-author with Pat Jertberg. 1980

Ethnobiology. *In* Overview of the Prehistory and History of Inland San Diego County. Prepared for Bureau of Land Management. Wirth Associates. 1978

Reconnaissance of Recorded Archaeological Resources within the Proposed Batiquitos Lagoon Regional Park. Prepared for County of San Diego. 1976

Archaeological Inventory Survey for the Proposed Sewer System: City of Yucaipa, San Bernardino County, California. Prepared for Yucaipa Valley Water District. 1976

Excavation of Ven-47, Ventura County, CA. Prepared for Prudential Co., Westlake, California. 1973

Publications and Papers Presented

"Peleliu Battlefield Preservation and the Challenges of a "Lived-In Landscape" Presented at annual meeting of the Society for Historical Archaeology, Toronto, Canada. January 8,2008

"The role of cultural resource management in archaeological site protection: a view from California." Presented at the International Conference on Security of the Archaeological Heritage. St Petersburg, Russia. May, 2006

"Santa Ysabel Ranch Paso Robles: Gracious Living For Over 8000 Years". In: *Emerging from the Ice Age: Early Holocene Occupations on the California Coast.* Edited by E. Bertrando and V.A. Levulett. San Luis Obispo County Archaeological Society Occasional Paper No. 17. 2004

"Preservation of World War II Historic Resources on Guadalcanal, Solomon Islands". Presented at 11th Annual Symposium on Maritime Archaeology and History of Hawaii and the Pacific. Honolulu, Hawaii. 1999

"Recent Archaeological Investigations on Tinian Island, Commonwealth of the Northern Marianas." Presented at annual meeting of the Society for Hawaiian Archaeology. Maui, Hawaii. 1996

"Momentous vs. Mundane: Considerations of World War II Archeology in Hawaii". Presented at Military Archaeology of Australia and the Pacific, Albury, NSW, Australia. 1995.

"The World War II Landscape of Kwajalein Atoll, Republic of the Marshall Islands". Presented at the Circum-Pacific Prehistory Conference, Seattle, Washington. 1989

Analysis of Human Coprolites From RIV-1179 and RIV-2827, Near La Quinta, California. In, *Archaeological Investigations at La Quinta, Salton Basin, Southeastern California.* Edited by Mark Sutton and Philip Wilke. Archaeological Research Unit, University of California, Riverside. 1987

"Archeology 'Under Fire': Working with the U.S. Military". Presented at the World Archaeological Congress. Southampton, England, September, 1986

"The Vandenberg Air Force Base Cultural Resources Program". Presented at the annual conference of the Air Force Systems Command Historians, Vandenberg Air Force Base, October 1983

"The Answer is Blowing in the Wind: Making Sense of Archeological Sites in Dunes". Presented at the Archaeological Sciences in the Pacific Region Symposium of the XV Pacific Science Congress. Dunedin, New Zealand, February, 1983. With R. Brown.

"Managing Cultural Resources for Military Construction". Presented at the annual meeting of the Society for American Archaeology. Pittsburgh, PA. April, 1983.

"Protecting and Managing Coastal Archaeological Sites: The US Army Corps of Engineers in California". Presented in the Public Archaeology Symposium (Section K3b) of the XV Pacific Science Congress. Dunedin, New Zealand, February, 1983.

"On the Question of Prehistoric Rice Cultivation in the Marianas Islands." *Micronesica* 17 (1-2): 1-9, 1981. With John Craib.

"Native American Rock Art in a Nineteenth Century Mining Boom Town". Presented at the annual meeting of the American Rock Art Association. Tucson, Arizona, May, 1977. With Eric Ritter and Richard Brook.

"Archaeological and Historical Inventory of the Saline Valley, Inyo County". Presented at the annual meeting of the Society for California Archaeology, San Diego, California. April, 1977.

"Prehistoric Uses of Chaparral Communities in the Santa Monica Mountains". Presented at the annual meeting of the Southern California Academy of Sciences, Los Angeles, California. May, 1975.

References

Dr. Laurie Lucking (808) 656-2878 x 1052
U.S. Army Garrison Hawaii
Department of Public Works (APVG-GMV)
Building 105, Wheeler Army Air Field
Schofield Barracks, Hawaii 96857

Kanalei Shun (808) 438-6934
U.S. Army Corps of Engineers
Pacific Ocean Division
Fort Shafter, Hawaii 96858

David Watson (805) 544-4444
King Ventures
285 Bridge Street
San Luis Obispo, California 93401

TODD S. HANNAHS, M.S., R.P.A

EDUCATION

M. S. in Historic Preservation, University of Vermont, Vermont, 1999.
M. S. Thesis, *Submerged Cultural Resources: Balancing Curation and Access.*
B. A. in Anthropology, Pomona College, California, 1979.
B. A. Thesis, *Analysis of Coprolites from the Coachella Valley.*

SPECIAL COURSES

Workshop on operation of submerged remote operated vehicles, 2001
Roper Enterprises Inc.
Workshop on New Section 106 Regulations, 1999
Presented by the national Advisory Council on Historic Preservation. Montpelier, VT
Assessing the Archaeological Significance of Historical sites, 1998
University of Nevada, Reno.
Field tutorial with the College Year in Athens, Greece, 1977.
Excavation and class work at University of London, England, 1977.

WORK EXPERIENCE

For three decades I have been a professional archaeologist and have directed or participated in prehistoric and historic archaeological investigations on land in California, Pennsylvania, Maryland, and Vermont as well as underwater archaeological investigations in Alabama, California, Georgia, Florida, Maryland, New Jersey, New York, North Carolina, Texas, Vermont and Virginia. I have worked with a variety of remote sensing equipment including magnetometers and sonar. For two years I taught archaeological method and theory as well as world prehistory to undergraduates at the University of Vermont.

In 1998 I completed a graduate degree in historic preservation at the University of Vermont and much of my recent work has focused on history and the built environment. I have authored or co-authored numerous archaeological reports as well as historic structure assessments as well as successful submissions to the national register of Historic Places. As well as authoring "Underwater Parks Versus Preserves: Data or Access". Chap. 1 in *Submerged Cultural Resource Management Preserving and Interpreting Our Sunken Maritime Heritage*, edited by James D. Spireck and Della A. Scott-Ireton. New York: Kulwer Press. 2003. I have dealt with a variety of cultural resource management and environmental issues in order to ensure compliance with federal, state and local laws.

PROFESSIONAL AFFILIATIONS

Member of the Register of Professional Archaeologists
Member of Society for Historical Archaeology
National Trust Forum Member, National Trust for Historic Preservation
Member of the Society of Architectural Historians
Member of the Vermont Underwater Historic Preserves Advisory Committee

Teaching:

Courses Taught

"Introduction to World Prehistory and Archaeology" ANTH 24, University of Vermont, Spring and Fall of 1999 and Spring of 2000.

Guest Lecture

Cultural Resources & Archaeology: "Natural Environment Studio" LA 403, Polytechnic University, San Luis Obispo September 30th, 2009.

Adaptive Reuse, Historic Preservation and the "Process": "Historic Preservation" EDES 420, Polytechnic University, San Luis Obispo September 7th, 2005.

Underwater Preserves: "Historic Preservation" HP 307, University of Vermont, November 4th, 1998.

Adaptive Reuse: "Advanced Preservation Practices" *Underwater Preserves*: "Advanced Preservation Practices" University of Vermont, November 4th, 1998.,

Publications:

Underwater Parks Versus Preserves: Data or Access. Chap. 1 in *Submerged Cultural Resource Management Preserving and Interpreting Our Sunken Maritime Heritage*, edited by James D. Spireck and Della A. Scott-Ireton. New York: Kulwer Press. 2003

Papers Presented:

"Preservation, Communication or Recreation: Underwater Historic Parks or Preserves", Presented at the Society for Historical Archaeology 33rd Conference on Historical and Underwater Archaeology, Québec City, Québec, January, 2000

"Cultural Resources in Lake Champlain: Commercial, Recreational, or Archaeological Resources?", Presented at the Center for Resarch on Vermont, Research in Progress Seminar, Burlington, VT. September 1999

"Balancing Curation and Access: An Assessment of the Lake Champlain Underwater Preserve Management Plan 1998 - 2008", Presented at the Conference on the Adirondacks and the Lake Champlain Basin, Saranac, NY. June 1999.

Report Production:

AUTHOR, *Site History and Archaeological Assessment of CA-SBA-58 With Mitigation Strategies to Address Potential Impacts Resulting From The Construction of Marriott Residence Inn at 6300 Hollister Avenue Goleta, California* PRINCIPAL INVESTIGATOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2011

AUTHOR, *Phase II Archaeological Investigation of CA-SLO-499, Morro Bay, California.* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2011

CO-AUTHOR, *California Department of Transportation Historic Property Survey Report: Castillo Del Mar Bike Path Improvement, Castillo Del Mar to Valley Road, Arroyo Grande, San Luis Obispo County, California* PRINCIPAL INVESTIGATOR, FIELD DIRECTOR AND ANALYSIS CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2010

CO-AUTHOR, *Historic Structures Assessment of the Valdez Ranch, 50403 Martinez Road Lockwood, CA APN [423-041-018].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2010

CO-AUTHOR, *Historic Structures Assessment of York Mountain Winery 7505 - 7520 York Mountain Road Templeton, California APN [014-221-027].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2010

CO-AUTHOR, *Archaeological Survey of the El Camino Real Improvement Project, Oak Park Boulevard to East Grand Avenue, Arroyo Grande, San Luis Obispo County, California* PRINCIPAL INVESTIGATOR, FIELD DIRECTOR AND ANALYSIS CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2010

AUTHOR, *Archaeological Assessment of a 2+/- Acre section of the Union Pacific Railroad Near Mile Post 332.73* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MARCH 2010

AUTHOR, *Phase I Cultural Resources Survey of Cambria Community Services District Santa Rosa Creek / San Simeon Beach Test Well Sites, Cambria, San Luis Obispo County California.* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MARCH 2010

AUTHOR, *Phase I Archaeological Survey of a 30+/- Acre Property at the South Terminus of Illinois Way, Nipomo, San Luis Obispo County, California APN [092-031-024 & 092-031-025]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, FEBRUARY 2010

AUTHOR, *Phase I Archaeological Survey of a 4+/- Acre section of the Union Pacific Railroad at Mile Post 341* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2010

AUTHOR, *Extended Phase I Archaeological Survey of The Juvenile Hall Expansion, A +/- 2 Acre Parcel at 1065 Kansas Avenue, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS, RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2009

CO-AUTHOR, *Historic Structure Assessment of a One Story Commercil Building and Residence at 1518, 1520, 1522 & 1524 Spring Street, Paso Robles, California [APN 008-321-005].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, SEPTEMBER 2009

AUTHOR, *Phase I Archaeological Survey for the Sidewalk Improvement Project at 24th Street and Riverside Avenue, Paso Robles,, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, AUGUST 2009

AUTHOR, *Phase I Archaeological Survey of a 164.36 Acre Vineyard West of Branch Road, Paso Robles,, San Luis Obispo County, California APN [015-031-020]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2009

AUTHOR, *Phase III Archaeological Excavation and Data Recovery of a Portion of CA-SLO-586 Santa Margarita, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JUNE 2009

CO-AUTHOR, *Historic Structure Assessment of the Combination Office and Classrooms at Valley View Adventist Academy 230 Vernon Street Arroyo Grande, California [APN 007-011-023].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2008

AUTHOR, *Phase I Archaeological Survey of 506 Long Branch Avenue, Grover Beach, San Luis Obispo County, California APN [060-270-016]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, FEBRUARY 2009

AUTHOR, *Extended Phase I Archaeological Survey of a 4 Acre Parcel in Los Alamos, Santa Barbara County, California APN [101-110-035]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2009

AUTHOR, *Phase I Archaeological Survey of Four Parcels Totaling Approximately 750 Acres in Price Canyon, San Luis Obispo County, California [APNs 044-561-004,-079-281-025, 079-281-026 & 079-281-028]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2008

CO-AUTHOR, *Historic Structures Assessment of a Two Story House at 1442 Pine Street, Paso Robles, California [APN 008-326-001].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2008

AUTHOR, *Phase I Archaeological Survey 10 Acre Parcel at 1485 Eureka Lane, Tempelton, San Luis Obispo County, California [APN 034-131-023]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2008

AUTHOR, *Phase I Archaeological Survey of 139 & 145 West Branch Street, Arroyo Grande, California [APN 007-481-008 & 007-481-009]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2008

AUTHOR, *Phase I Archaeological Survey of a Two Acre Parcel, East of Eddy Street and North of Old County Road, Temelton, San Luis Obispo County, California [APN 041-075-004]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, OCTOBER 2008

AUTHOR, *Extended Phase I Archaeological Survey of Two Parcels, in Santa Ynez, Santa Barbara County, California [APN 143-212-018 & 143-212-019]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, OCTOBER 2008

AUTHOR, *Extended Phase I and Phase II Archaeological Evaluation of a Portion of CA-SBA-3500, at the Corner of Railway Avenue and Grand Avenue, Los Olivos, Santa Barbara County, California [APN 143-074-005]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, OCTOBER 2008

AUTHOR, *Phase I Archaeological Survey Esculea Del Rio, 1205 El Camino Real, Atascadero, San Luis Obispo County, California [APN 049-042-011]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, SEPTEMBER 2008

AUTHOR, *Phase I Archaeological Survey 26.5 Acre Parcel at 979 Noyes Road, Arroyo Grande, California [APN 044-366-020]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2008

AUTHOR, *Phase I Archaeological Survey of a Proposed Leach Field at Steinbeck Vineyard, 5940 Union Road Paso Robles, San Luis Obispo County,, California APN [015-053-012]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2008

CO-AUTHOR, *Archaeological Evaluation of Nine Locations at Camp Roberts and Camp San Luis Obispo, San Luis Obispo and Monterey Counties, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JUNE 2008

AUTHOR, *Phase I Archaeological Survey of a 12,269 Square Foot Parcel at 298 2nd Street, Avila Beach, San Luis Obispo County, California APN: [076-201-016]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MAY 2008

AUTHOR, *Phase I Archaeological Survey of a 9.7 Acre Parcel at 9440 Estrada Avenue, Santa Margarita, San Luis Obispo County, California [APN 069-044-005]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MAY 2008

AUTHOR, *Phase I Archaeological Survey of a Proposed Equipment and Materials Staging Area Chevron Estero Marine Terminal, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2008

AUTHOR, *Phase I Archaeological Survey 2.79 Acre Parcel, at the Northeast Corner of Vineyard Drive and Highway 101, Tempelton, San Luis Obispo County, California APN [041-211-011]* CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2008

AUTHOR, *Phase I Archaeological Survey and Historic Structure Assessment, 5036 South El Pomar Road, Tempelton San Luis Obispo County, California [APN 033-291-048]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MARCH 2008

AUTHOR, *Phase I Archaeological Survey of a 38.54 Acre Parcel at 1180 Eucalyptus Road Nipomo,, San Luis Obispo County, California [APN 091-281-079]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, FEBRUARY 2008

AUTHOR, *Phase I Archaeological Survey of the Twitchell Dam Stilling Basin, San Luis Obispo and Santa Barbara Counties, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL

RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2007

AUTHOR, *Phase I Archaeological Survey of a 5 Acre Parcel, 3002 Riverside Avenue, Paso Robles, San Luis Obispo County, California [APN 008-051=008]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2007

AUTHOR, *Phase I Archaeological Survey of a 40 Acre Parcel, at 51601 Lockwood Road, Lockwood, Monterey County, California [APN 423-331-031]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2007

AUTHOR, *Extended Phase I Archaeological Evaluation, 2461 Grand Avenue, Los Olivois, Santa Barbara County, California [APN 135-240-078]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2007

AUTHOR, *Historic Resources Assessment 5825 Ridgeway Court, Atascadero, San Luis Obispo County, California [APN 029-322-022]-* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, AUGUST 2007

CO-AUTHOR, *Historic Structure Assessment of J.J.'s Food Company at 303 East Branch Street, Arroyo Grande, California [APN 007-202-024]-* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, AUGUST 2007

AUTHOR, *Phase I Archaeological Survey and Historic Structure Assessment of an Abandoned Swimming Pool, San Miguel, California [APN 021-197-007]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, AUGUST 2007

CO-AUTHOR, *Historic Structures Assessment of Two Buildings at 139 & 145 West Branch Street, Arroyo Grande, California [APN 007-481-008 & 007-481-009].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JUNE 2007

CO-AUTHOR, *Historic Structures Assessment of a Ranch Complex on Cantinas Ranch, Lynch Canyon Road, Lake Nacimiento, San Luis Obispo County, California [APN 012-212-060].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2007

AUTHOR, *Phase I Cultural Resources Survey, for the Newsom Springs Regional Drainage Plan Arroyo Grande, California* FIELD DIRECTOR, AS WELL AS AND SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MARCH 2007

CO-AUTHOR, *Historic Structures Assessment of a Three Story House at 745 Park Street, Paso Robles, California [APN 009-201-005].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, FEBRUARY 2007

CO-AUTHOR, *Historic Structures Assessment of a Converted Auto Court at 371 San Luis Avenue, Pismo Beach, California [APN 005-066-002].* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, FEBRUARY 2007

CO-AUTHOR, *Historic Structures Assessment of the P. I. Market, Pismo Beach, San Luis Obispo County, California* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JUNE 2006

AUTHOR, *Historic Structures Assessment 5735 Tunitas, Atascadero, San Luis Obispo County, California* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2006

AUTHOR, *Results of Archaeological Monitoring of the Emplacement of a Cable Terminus, CA-SLO-2048 Creston, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MAY 2006

AUTHOR, *Historic Resources Assessment 5735 Rosario Street, Atascadero, San Luis Obispo County, California* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, MARCH 2006

AUTHOR, *Historic Structures Assessment of a 3 Acre Parcel, at 764 Grande Avenue, Nipomo, San Luis Obispo County, California [APN 092-130-043]* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2006

AUTHOR, *Archaeological Survey of the 9.24 Acre Parcel, 1945 Old Mill Road, Solvang, Santa Barbara County, California, [APN 139-540-020]* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2005

AUTHOR, *Archaeological Inventory Survey of a Proposed Well Site, A One Acre Parcel at the East End of Creekside Ranch Road, Templeton San Luis Obispo County, California,* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2005

CO-AUTHOR, *Constraints Analysis For Update of the Shandon-Carrizo Area Plan, San Luis Obispo County,* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2005

CO-AUTHOR, *Archaeological Inventory Survey of +/- 74 Acres at 68591 Vinyard Canyon Road, Parkfield, Monterey County, California,* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, OCTOBER 2005

AUTHOR, *Archaeological Monitoring And Recordation of the Demolition of the "Loobliner " Building, 969 Monterey Street, San Luis Obispo, California,* ARCHITECTURAL HISTORY, ARCHAEOLOGY AND CONSTRUCTION DESCRIPTION, PLANNED DRAWINGS AND PHOTOS. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2005

CO-AUTHOR, *Archaeological Survey and Assessment of the Bull Test Facility, California Polytechnic University, San Luis Obispo County, California,* SURVEY AND SUB-SURFACE TESTING, SITE ANALYSIS, PHOTOGRAPHY, MAPPING, ARTIFACT ANALYSIS AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2005

CO-AUTHOR, *Archaeological Inventory Survey of 320 Acres, On Two Parcels, In Lockwood, Monterey, California,* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2005

CO-AUTHOR, *Cultural Resources Inventory Survey of 360 Acres, On Three Parcels, In Lockwood, Monterey, California,* ASSESSMENT OF THE BUILT ENVIRONMENT, SITE ANALYSIS, ARCHITECTURAL DOCUMENTATION, ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, APRIL 2005

AUTHOR, *Archaeological Inventory Survey of A 20.59 Acre Parcel, At 561 Oakglen Avenue, Nipomo San Luis Obispo County, California [APNs 090-171-005, 027,028 & 029],* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2004

CO-AUTHOR, *Camp Roberts and Camp San Luis Obispo Army National Guard Training Installations: After-Field Report For The Archaeological Evaluation Of Nine Locations,* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2005

AUTHOR, *Results Of Archaeological Monitoring Of The Removal Of Contaminated Soils At Point Arguello Vandenberg Air Force Base, Santa Barbara County, California,* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JANUARY 2005

AUTHOR, *Archaeological Inventory Survey of A 16.32 Acre Parcel, "Lot 72 Park Project" Solvang, Santa Barbara County, California [APN 139-490-072],* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, DECEMBER 2004

AUTHOR, *Archaeological Inventory Survey of A 2.48 Acre Parcel, At 9615 Santa Clara Road, Atascadero, San Luis Obispo County, California [APN 059-610-095],* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, SEPTEMBER 2004

AUTHOR, *Phase I Archaeological Survey of A Proposed Cell Tower Facility, 1625 East Donovan Road, Santa Maria, Santa Barbara County, California,* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2004

AUTHOR, *Phase I Archaeological Survey Cingular Cell Site VY-403-01, Las Varas Road, Goleta, California [APN 079-080-005],* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, JULY 2004

AUTHOR, *Results Of Archaeological Subsurface Testing For A Portion Of The Manse On Marsh Project. 497 Marsh Street, San Luis Obispo, California [APN 003-512-009],* EXCAVATOR, PHOTOGRAPHER, RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA. JUNE 2004

CO-AUTHOR, *Archaeological Assessment for Boulders West Development, Indio California,* FIELD DIRECTOR, EXCAVATOR, PHOTOGRAPHER, RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA. JUNE 2004

CO-AUTHOR, *National Register of Historic Places Eligibility Evaluation of a Former Motor Barge Contract No. DACW09-03-0005, The Deck Barge Merit,* FIELD DIRECTOR, VESSEL ASSESSMENT, PHOTOGRAPHER RESEARCH AND WRITE UP. STATISTICAL RESEARCH, TUSCON ARIZONA, DECEMBER, 2003

AUTHOR, *Phase II Archaeological Investigation of (Parcel Map CO 01-0375), Nipomo, San Luis Obispo County, California* FIELD DIRECTOR, SITE ANALYSIS ARCHIVAL RESEARCH AND WRITE UP. CULTURAL RESOURCE MANAGEMENT SERVICES, PASO ROBLES, CALIFORNIA, NOVEMBER 2002 - JANUARY 2003

AUTHOR, *Cultural Resources and Impact Assessment for the City of San Luis Obispo Mid-Higuera Widening Project, San Luis Obispo County, CA.* FIELD DIRECTOR AND PRINCIPLE INVESTIGATOR OF AN ARCHAEOLOGICAL SURVEY AND HISTORIC STRUCTURES

assessment and recordation. Directed field work and performed all archival Research as well as compilation of plans, pictures and photographs. Produced the final report as well. C. A. Singer and Assoc. Cambria, California, June 2001

Author, *Archaeological Assessment of CA-SLO-2090 For Cal Poly Faculty/Staff Housing Project-Site H-9* Feild director and principle investigator of a 30 acre property Field director, as well as artifact interpretation and site analysis and write up. Cultural Resource Management Services, Paso Robles, California, June 2001

Co-author, *Phase II Archaeological Investigation of a Portion of CA-SLO-1914/H Birch Avenue, Cayucos, San Luis Obispo County, CA.* Artifact interpretation and site analysis and write up. Cultural Resource Management Services, Paso Robles, California, April 2001

Author, *Cultural Resources and Impact Assessment for a Residential Property on Birch Avenue and "D" Street in Cayucos, San Luis Obispo County, CA.* Field director and principle investigator of a 7 acre property with historic and prehistoric resources. Directed field work and performed all archival Research as well as compilation of plans, pictures and photographs. C. A. Singer and Assoc. Cambria, California, March 2001

Author, *Cultural Resources and Impact Assessment for a 7 Acre parcel at 1653 Hwy 227, San Luis Obispo, San Luis Obispo County, CA.* Field director and principle investigator of a 7 acre property with historic and prehistoric resources. Directed field work and performed all archival Research as well as compilation of plans, pictures and photographs. C. A. Singer and Assoc. Cambria, California, February 2001

Co-author, Archival Research as well as compilation of plans, pictures and photographs. Authored and submitted an adaptive use proposal for the old courthouse 1 Court Street, Middlebury, Vermont, December, 1997

Author, Researcher *Management Options for Vermont's Underwater Historic Preserves,* Lake Champlain Maritime Museum, Basin Harbor, Vermont, December 1997

Videographer, Co-Author, Scripted, shot and edited a short video, *Where the Ruben Hits the Road a Road trip of Vermont Diners,* for public high schools in Vermont to assist in teaching historic preservation. November 1997.

Author, Architectural Conservator, *Building Assessment of the Carriage Barn at 15 Weybridge Street.* Prepared a building history, architectural assessment and recommendations for adaptive reuse as well as plan views and photos. Middlebury, Vermont, October, 1997

Author, *Treatment Recommendations for the Sheldon Museum,* Prepared a building history, as well as a mortar analysis architectural assessment and chromachronology of the paints both interior and exterior so that

PLANNED REHABILITATION COULD BE DIRECTED TOWARDS A SPECIFIC PERIOD. MIDDLEBURY, VERMONT, JULY 1997

HISTORIAN AUTHOR, ARCHIVAL RESEARCH AS WELL AS COMPILATION OF PLANS, PICTURES AND PHOTOGRAPHS. AUTHORED AND SUBMITTED A NOMINATION TO THE NATIONAL REGISTER OF HISTORIC PLACES FOR THE FIRST CONGREGATIONAL CHURCH IN ORWELL, VERMONT, MAY, 1997

AUTHOR, TECHNICAL REPORT, ON FILE AT UNIVERSITY OF VERMONT SPECIAL COLLECTIONS. HISTORIC PRESERVATION AND SUBMERGED CULTURAL RESOURCES. UNIVERSITY OF VERMONT, BURLINGTON, VERMONT, APRIL 1997

AUTHOR, *Yachting: "the most healthful and manly recreation a man can take"* HISTORY OF THE INTRODUCTION OF PLEASURE CRAFT IN BURLINGTON VERMONT AND LAKE CHAMPLAIN. UNIVERSITY OF VERMONT SPECIAL COLLECTIONS, BURLINGTON VERMONT, DECEMBER, 1996

AUTHOR, *The Burlington Marina*, HISTORY OF THE BURLINGTON WATERFRONT AND IT'S PLACE IN THE BUILT ENVIRONMENT. UNIVERSITY OF VERMONT SPECIAL COLLECTIONS, BURLINGTON VERMONT, DECEMBER, 1996

AUTHOR, ARCHIVAL RESEARCH AS WELL AS COMPILATION OF PLANS, PICTURES AND PHOTOGRAPHS. AUTHORED AND SUBMITTED A BUILDING HISTORY OF THE OTTER CREEK CHILD CARE FACILITY AT 15 WEYBRIDGE STREET, , MIDDLEBURY, VERMONT, DECEMBER, 1996

AUTHOR, *Robert Roberts and the Burlington Mayoral Elections of 1899*, A SHORT ARTICLE ON THE MAYORAL RACE OF 1899. ON FILE AS PART OF A COLLECTION OF ARTICLES ON BURLINGTON HISTORY. UNIVERSITY OF VERMONT SPECIAL COLLECTIONS, BURLINGTON VERMONT, SEPTEMBER, 1996

DATA PROCESSOR / AUTHOR, ANALYZED DATA FROM REMOTE SENSING SURVEY AND WROTE THE RELATED PORTION OF THE FINAL REPORT. ARCHAEOLOGICAL SURVEY NEAR FORT TICONDEROGA, LAKE CHAMPLAIN, VT. LAKE CHAMPLAIN MARITIME MUSEUM, DECEMBER-JANUARY 1993-1994

HISTORIAN AUTHOR, ARCHIVAL RESEARCH AS WELL AS COMPILATION OF PLANS, PICTURES AND PHOTOGRAPHS. AUTHORED THE HISTORY OF U.S.S. CUMBERLAND. PANAMERICAN CONSULTANTS INC., AUGUST, 1993

MAPPER/ILLUSTRATOR, PRODUCED ALL PLANS OF HISTORIC SITES FOR FINAL INKING BY THE PROJECT ILLUSTRATOR DOMENIGONE VALLEY NEAR HEMET, CA. GREENWOOD AND ASSOC. OCTOBER-DECEMBER, 1992

DATA PROCESSOR / AUTHOR, ANALYZED DATA FROM REMOTE SENSING SURVEY AND WROTE THE FINAL REPORT. CAROLINA BEACH SURVEY PANAMERICAN CONSULTANTS INC. SEPTEMBER, 1992

ARCHAEOLOGICAL ILLUSTRATOR/DRAFTSMAN, FULL VESSEL AS WELL AS DETAIL DRAWINGS OF OF AN IRON HULLED STEAM VESSEL AND WOODEN HULLED MOTOR VESSEL IN THE LAVACA RIVER, LAVACA TX. PANAMERICAN CONSULTANTS INC. JANUARY, 1992

Mapper/Illustrator, produced all plans of an historic site for final inking by the project illustrator. Oceanside, CA. Greenwood and Assoc. August, 1991

Author/Illustrator, wrote and illustrated all phases of an investigation offshore of Mobile Bay, AL. Panamerican Consultants Inc. July, 1991

Author, wrote methods and results portion of Archaeological survey at Breamar Rd. near Santa Barbara, CA. Wilcoxon Consultants March 1990

Draftsman, produced all site plans as well as project overviews of prehistoric and historic sites at Vandenberg Air Force Base near Lompoc CA. Environmental Solutions Inc. December 1989-January 1990

Draftsman, produced all site plans as well as project overviews of prehistoric and historic sites at Vandenberg Air Force Base near Lompoc CA. Environmental Solutions Inc. September-October, 1989

Draftsman, produced final versions of site plans and overviews. Riverside power corridor. San Diego, CA. Wirth Assoc. April, 1982

Author, produced fieldwork and environmental description portions of a report on an archaeological survey and excavation at Ilic near Escondido, CA. Flower, Ike and Roth Inc. October 1981

Fieldwork Conducted, Land:

Monitor, Archaeological Monitoring Bike Path extension in Avila Beach, CA. Cultural Resources Management Services January 2011

Field Director, Phase I survey of Castillo Del Mar to Valley Road in Arroyo Grande, CA. Cultural Resources Management Services December 2010

Architectural Historian, York Mountain Winery at 7505 - 7520 York Mountain Rd Templeton San Luis Obispo County, CA. Cultural Resources Management Services October 2010

Principal Investigator, Archaeological assessment of CA-SBA-58 and necessary Phase III mitigation measures Goleta, CA. Cultural Resources Management Services April - December 2010

Architectural Historian, Halter Ranch Winery at 8910 Adeladia Rd Paso Robles, CA. Cultural Resources Management Services October 2010

Architectural Historian, Valdez Ranch at 50403 Martinez Rd Lockwood, CA. Cultural Resources Management Services September 2010

Field Director, Phase I survey of a section of El Camino Real from Oak Park BLVD to East Grand Ave. in Arroyo Grande, CA. Cultural Resources Management Services March 2010

Field Director, Archaeological assessment of a section of the Union Pacific Railroad near mile post 332.73 Santa Barbara County, CA. Cultural Resources Management Services March 2010

Field Director, Phase I survey of Proposed test well sites near Santa Rosa Creek in Cambria, San Luis Obispo County, CA. Cultural Resources Management Services February 2010

Field Director, Phase I Archaeological survey of a 30 +/- Acre parcelAt the end of Illinois Way Nipomo, San Luis Obispo County, CA. Cultural Resources Management Services January 2010

Field Director, Phase I survey of a section of the Union Pacific Railroad near mile post 341 Santa Barbara County, CA. Cultural Resources Management Services December 2009

Field Director, Extended Phase I evaluation of a 2 acre parcel for the expansion of the Juvenile Hall in San Luis Obispo County, CA. Cultural Resources Management Services November 2009

Field Director, Phase I survey of the proposed 24th st sidewalk improvement Paso Robles, CA. Cultural Resources Management Services August 2009

Architectural Historian, 1518,1520, 1522 & 1524 Spring St., Paso Robles, CA. Cultural Resources Management Services July 2009

Field Director, Phase I survey of a 164 acre vineyard Paso Robles, CA. Cultural Resources Management Services June 2009

Monitor, Archaeological Monitoring of 570 Olive st. Moro Bay, CA. Cultural Resources Management Services June 2009

Monitor, Archaeological Monitoring of sewer upgrade, Oceano CA. Cultural Resources Management Services March 2009

Field Director, Phase I survey of 506 Long Branch Ave, Grover Beach, CA. Cultural Resources Management Services January 2009

Field Director, Extended Phase I evaluation of a 4 acre parcel in Los Alamos, CA. Cultural Resources Management Services January 2009

Field Director, Phase I survey of a proposed park for Jacks Helping Hands Nipomo, CA. Cultural Resources Management Services November 2008

Architectural Historian, Valley View Adventist Academy Arroyo Grande , CA. Cultural Resources Management Services October 2008

Architectural Historian, 1442 Pine St Paso Robles, CA. Cultural Resources Management Services October 2008

Field Director, Phase I survey of 750 acres in Price Canyon near Pismo Beach, CA. Cultural Resources Management Services October 2008

Field Director, Phase I survey of 139 & 145 Branch St. Arroyo Grande, CA. Cultural Resources Management Services September 2008

Field Director, Phase I survey of a 2 acre parcel off Eddy Lane, Templeton, CA. Cultural Resources Management Services September 2008

Field Director, Phase I survey of a 10 acre parcel at 1485 Eureka Lane, Templeton, CA. Cultural Resources Management Services September 2008

Monitor, Archaeological Monitoring at Halter Ranch Adelaide, CA. Cultural Resources Management Services September 2007

Field Director, Extended Phase I and Phase II evaluation of CA-SBA-3500 Los Olivos, CA. Cultural Resources Management Services August 2008

Field Director, Phase I survey of Esquela Del Rio 1205 El Camino Real Atascadero, CA. Cultural Resources Management Services August 2008
Field Director, Phase I survey of a 26.5 acre parcel at 979 Noyes Rd Arroyo Grande, CA. Cultural Resources Management Services June 2008

Field Director, Phase I survey of a proposed Leach field Steinbeck Vineyard, Paso Robles, CA. Cultural Resources Management Services June 2008

Field Director, Phase III Archaeological Data Recovery CA-SLO-586 Santa Margarita, CA. Cultural Resources Management Services May 2008

Field Director, Phase I survey of 298 2nd St. Avila Beach, CA. Cultural Resources Management Services April 2008

Field Director, Phase I survey of a 9.7 acre parcel at 9440 Entrada ave. Santa Margarita, CA. Cultural Resources Management Services April 2008

Field Director, Phase I survey of a proposed materials & equipment staging area, Chevron Estero Marine Terminal, Moro Bay , CA. Cultural Resources Management Services March 2008

Field Director, Phase I survey of 3.79 Acres at the intersection of Vineyard Drive & Hwy 101, Tempelton, CA. Cultural Resources Management Services march 2008

Field Director, Phase I archaeological survey & historic structure assessment, 5036 South El Pomar rd., Tempelton, CA. Cultural Resources Management Services February 2007

Field Director, Phase I survey of 38.54 Acres 1180 Eucalyptus Rd. Nipomo, CA. Cultural Resources Management Services January 2008

Field Director, Phase I survey of Twitchell Dam Stilling Basin in San Luis Obispo & Santa Barbara Counties, CA. Cultural Resources Management Services Novwember 2007

Field Director, Phase I survey of a 5 acre parcel 3002 Riverside Ave. Paso Robles, CA. Cultural Resources Management Services October 2007

Field Director, Phase I survey of a 40 acre parcel at 50601 Lockwood Rd. Lockwood, CA. Cultural Resources Management Services October 2007

Field Director, Extended Phase I survey of 2461 Grand Ave. :Los Olivos, CA. Cultural Resources Management Services September 2007

Field Director, Phase I survey of an abandoned swimming pool in San Miguel, CA. Cultural Resources Management Services February 2007

Architectural Historian, 5825 Ridgeway Ct. Atascadero, CA. Cultural Resources Management Services June 2007

Architectural Historian, JJ's Market Arroyo Grande, CA. Cultural Resources Management Services June 2007

Field Director, Phase I survey of 139 & 145 Branch St. Arroyo Grande, CA. Cultural Resources Management Services April 2007

Field Director, Phase I survey of Woodruff Lot Split,Templeton, CA. Cultural Resources Management Services March 2007

Monitor, Archaeological Monitoring at Tefft St. And Mary St. Nipomo, CA. Cultural Resources Management Services March 2007

Field Director, Phase I survey of Newsom Springs area in Arroyo Grande, CA. Cultural Resources Management Services February 2007

Monitor, Archaeological Monitoring at Highway 41 & Creston Road, Creston, CA. Cultural Resources Management Services February 2007

Architectural Historian, 745 Park Street Paso Robles CA. Cultural Resources Management Services February 2007

Monitor, Archaeological Monitoring at Highway 41 Upper Salinas Restoration Project. Atascadero, CA. Cultural Resources Management Services January 2007

Architectural Historian, 371 San Luis Ave. Pismo Beach, CA. Cultural Resources Management Services January 2007

Architectural Historian, Piedras Blancas Hotel, San Simeon. CA. Cultural Resources Management Services October 2006

Monitor, Archaeological Monitoring at Tumbling Waters Development Orcutt Rd. San Luis Obispo, CA. Cultural Resources Management Services September 2006

Architectural Historian, Survey Ranch and out buildings Cantinas Ranch Lake Nacimento, CA. Cultural Resources Management Services September 2006

Monitor, Archaeological Monitoring at Hwy 41 Meiners Hardware expansion, Moro Bay CA. Cultural Resources Management Services June July 2006

Monitor, Archaeological Monitoring at 465 Dana Street, San Luis Obispo CA. Cultural Resources Management Services July 2006

Field Director, Phase I survey testing of 3 separte 10 to 40 Acre Parcels Lockwood & Bryson Hysperia, CA. Cultural Resources Management Services May 2006

Monitor, Archaeological Monitoring at Hwy 41 & Creston Road, Creston CA. Cultural Resources Management Services July 2006

Architectural Historian, Survey P. I. Market Pismo Beach, CA. Cultural Resources Management Services April 2006

Architectural Historian, Survey 5534 Tunitas Street, Atascadero, CA. Cultural Resources Management Services April 2006

Architectural Historian, Survey 5735 Rosario Street, Atascadero, CA. Cultural Resources Management Services March 2006

Field Director, Phase III at Pennington Creek, Cal-Poly Bull Test Facility, San Luis Obispo CA. Cultural Resources Management Services December 2005

Monitor, Archaeological Monitoring at Pennington Creek, Cal-Poly Bull Test Facility, San Luis Obispo CA. Cultural Resources Management Services November 2005

Architectural Historian, Survey 764 Grande Avenue, Nipomo, CA. Cultural Resources Management Services November 2005

Field Director, Phase II testing of a SBC fiber-Optic Bore hole Creston, CA. Cultural Resources Management Services November 2005

Field Director, Phase I survey testing of a 9.24 Acre Parcel Solvang, CA. Cultural Resources Management Services October 2005

Field Director, Phase I survey testing of a 1 Acre Parcel Templeton, CA. Cultural Resources Management Services October 2005

Architectural Historian, Survey Shandon, CA. Cultural Resources Management Services October 2005

Survey Technician, Phase I survey Parkfield, CA. Cultural Resources Management Services October 2005

Architectural Historian, Phase I survey Lockwood, CA. Cultural Resources Management Services June 2005

Architectural Historian, Phase I survey Lockwood, CA. Cultural Resources Management Services April 2005

Field Director, Phase I survey testing of a 20.59 Acre Parcel Nipomo, CA. Cultural Resources Management Services March 2005

Architectural Historian, Monitor, Archaeological Monitoring, Demolition of commercial building San Luis Obispo, CA. Cultural Resources Management Services February-March 2005

Monitor, Archaeological Monitoring at Point Arguello, Vanedenberg Air Force Base, CA. Cultural Resources Management Services January 2005

Field Director, Phase I survey testing of a 16.32 Acre Parcel Solvang, CA. Cultural Resources Management Services December 2004

Field Director, Phase II Excavation of Nine sites on Camp Roberts & Camp San Luis Obispo National Guard Training Facilities, San Luis Obispo County, CA. Cultural Resources Management Services September November 2004

Field Director, Phase I survey testing of a Cell tower site. Santa Maria, CA. Cultural Resources Management Services July 2004

Field Director, Phase I survey testing of a Cell tower site. Goleta, CA. Cultural Resources Management Services July 2004

Archaeological monitor, subsurface testing of the Manse on Marsh expansion project. San Luis Obispo, CA. Cultural Resources Management Services June 2004

Field director, Pre-construction testing Boulders West Development, Indio CA. Cultural Resources Management Services May 2004

Field director Phase I survey of historic and prehistoric resources Mid-Higuera widening project, San Luis Obispo. C.A. Singer and Assoc. April July 2001

Field director / Crew Chief Phase I survey of historic and prehistoric resources Cal Poly Housing Project San Luis Obispo County. C.A. Singer and Assoc. June 2001

Field director Phase I survey of an historic structure. "D" street Cayucos, San Luis Obispo County. C.A. Singer and Assoc. February 2001

Field director Phase I survey of historic and prehistoric resources Edna Valley. Hwy. 227, San Luis Obispo County. C.A. Singer and Assoc. December 2000 February 2001

Crew Chief, Phase I and II excavation at Chesapeake Properties, Shelburne Rd. Shelburne, VT. Geoarch, Inc. May-July, 1996

Crew Chief, Phase I and II excavation Middlebury elementary school. Middlebury, VT. Geoarch, Inc. May, 1996

Archaeological Excavator, Archaeological survey at Thermal, CA. RMW Paleo Inc. November, 1994

Survey Technician/Crew Chief, Directed all mapping at several sites in the Domenigone Valley near Hemet, CA. Greenwood and Assoc. October-December, 1992

Archaeological Excavator, Exposed and recorded historic remains at Prado resevoir near Corona, CA. Greenwood and Assoc. September, 1992

Archaeological Excavator/Survey Technician, Exposed and recorded historic remains near Oceanside, CA. Greenwood and Assoc. August,1991

Assistant Crew Chief/Archaeological Excavator, Exposed and recorded prehistoric remains at Surratt's Rd., MD GAI Consultants. October, 1990

Archaeological Excavator, Archaeological survey at Elwood Beach near Isla Vista, CA. Wilcoxon Consultants. July, 1990

Archaeological Monitor, Monitoring Heavy equipment during construction Santa Barbara, CA. Wilcoxon Consultants. July, 1990

Site Director, Directed investigation and recordation of numerous sites on Bixby Ranch near Lompoc, CA. Wilcoxon Consultants. April-June, 1990

Site Director, Conducted an archaeological survey at Breamar Rd. near Santa Barbara, CA. Wilcoxon Consultants March 1990

Archaeological Monitor, Monitoring Heavy equipment during construction at Santa Barbara City College Santa Barbara, CA. Wilcoxon Consultants. March, 1990

Archaeological Excavator, Exposed and recorded prehistoric remains at Jalama Beach near Goleta CA. ERCE Inc. February-March 1990

Archaeological Excavator, Exposed and recorded prehistoric remains at Bixby Ranch near Lompoc, CA. Wilcoxon Consultants. February-March, 1990

Survey Technician/Crew Chief/Draftsman, Exposed and recorded prehistoric remains at Vandenberg Air Force Base near Lompoc CA. Environmental Solutions Inc. December 1989-January 1990

Survey Technician/Crew Chief/Draftsman, Exposed and recorded prehistoric remains at Vandenberg Air Force Base near Lompoc CA. Environmental Solutions Inc. September-October, 1989

Archaeological Excavator, Exposed and recorded prehistoric remains near Morgantown PA. GAI Consultants. August-September, 1989

Survey Technician/Crew Chief/Draftsman, Exposed and recorded prehistoric remains at Vandenberg Air Force Base near Lompoc CA. Environmental Solutions Inc. May-August, 1989

Archaeological Excavator, Exposed and recorded historic remains in downtown Santa Barbara, CA. ERCE Inc. March-April, 1989

Archaeological Excavator, Recorded historic and remains during an archaeological Survey near Burbank, CA. ERCE Inc. March, 1989

Archaeological Excavator, Performed an archaeological Survey near Ojai, CA. Heather Macfarlane Consultants. March, 1989

Archaeological Excavator, Archaeological excavation at Patterson Nursury near Santa Barbara, CA. Heather Macfarlane Consultants. February, 1989

Archaeological Excavator, Exposed and recorded prehistoric remains at Elwood Beach near Goleta, CA. ERCE Inc. March, 1989

Field Director, Conducted phase I, II, and III investigations for the Chevron gas and oil pipeline at point arguello near Gaviota, CA. Westec Services Inc. June-August, 1987

Field Director/Archaeological Monitor, Phase III investigation at the Texaco Marine Terminal, Gaviota, CA. Westec Services Inc. April-June, 1987

Field Director, Conducted phase I, II, and III investigations for the Chevron gas and oil pipeline at point arguello near Gaviota, CA. Westec Services Inc. March-April, 1987

Archaeological Excavator, Exposed and recorded historic remains at Old Town San Diego, San Diego, CA. Roth and Assoc. February, 1987

Field Director, Conducted phase I, II, and III investigations for the Chevron gas and oil pipeline at point arguello near Gaviota, CA. Westec Services Inc. November, 1986-January, 1987

Field Director, Conducted a phase II investigation at the El Patio Hotel Santa Barbara, CA. Westec Services Inc. November 1986

Field Director, Conducted phase I, II, and III investigations for the Chevron gas and oil pipeline at point arguello near Gaviota, CA. Westec Services Inc. November, 1985-November, 1986

Archaeological Excavator, Exposed and recorded prehistoric remains on the Chevron gas and oil pipeline at point arguello near Gaviota, CA. Westec Services Inc. April-May, 1985

Archaeological Excavator, Exposed and recorded historic remains at China Camp State Park near San Francisco, CA. California Division of Parks and Recreation. November 1984

Archaeological Excavator, Exposed and recorded historic remains at Old Town San Diego, San Diego, CA. California Division of Parks and Recreation. April-May 1984

Archaeological Excavator, Exposed and recorded prehistoric remains in the Sorrento Valley near San Diego, CA. Regional Environmental Consultants Inc. January-February, 1983

Archaeological Excavator, Archaeological survey at Lake Ridge near Alpine, CA. Flower and Roth Inc. September, 1982

Archaeological Excavator, Archaeological survey for the Riverside power corridor near Hemet, CA. Flower and Roth Inc. September, 1982

Field Director/Archaeological Excavator, Archaeological survey at the Naval Oceans Systems Center San Diego, CA. Flower and Roth Inc. August-September, 1982

Archaeological Excavator, Archaeological survey for the Descanso overpass near Descanso, CA. Archaeological Systems Management Inc. June-July, 1982

Archaeological Excavator, Archaeological survey at the Pala Indian Reservation near Palomar, CA. Archaeological Systems Management Inc. June, 1982

Archaeological Excavator, Exposed and recorded prehistoric remains at Bonsall near San Diego, CA. Flower, Ike and Roth. May, 1982

Archaeological Excavator, Archaeological survey at Sweetwater, CA. Flower, Ike and Roth. April-May, 1982

Archaeological Excavator, Exposed and recorded prehistoric remains at Spring Valley near San Diego, CA. Archaeological Systems Management Inc. April, 1982

Archaeological Excavator, Archaeological survey at the Naval Oceans Systems Center San Diego, CA. Flower and Roth Inc. March, 1982

Archaeological Excavator, Exposed and recorded prehistoric remains at Spring Valley near San Diego, CA. Archaeological Systems Management Inc. March, 1982

Archaeological Excavator, Archaeological survey at Hemet, CA. Archaeological Systems Management Inc. March, 1982

Archaeological Excavator, Archaeological survey at Camp Pendelton near Oceanside, CA. Archaeological Systems Management Inc. March, 1982

Archaeological Excavator, Archaeological survey at the Palomar airport near Palomar, CA. Archaeological Systems Management Inc. March, 1982

Field Director/Archaeological Excavator, Archaeological survey at the Naval Oceans Systems Center San Diego, CA. Flower, Ike and Roth Inc. August-December, 1981

Field Director/Archaeological Excavator, Archaeological survey and excavation at Camino Hills near Oceanside, CA. Flower, Ike and Roth Inc. October 1981

Archaeological Excavator, Archaeological survey at Mira Mar Naval Air Station near San Diego, CA. Flower, Ike and Roth. October, 1981

Field Director/Archaeological Excavator, Archaeological survey and excavation at Ilic near Escondido, CA. Flower, Ike and Roth Inc. October 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Leisure Technology near Oceanside, CA. Flower, Ike and Roth. September-October, 1981

Archaeological Excavator, Archaeological survey at the Naval Radio Facility near Coranado, CA. Flower, Ike and Roth. September, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Leisure Technology near Oceanside, CA. Flower, Ike and Roth. August-September, 1981

Archaeological Excavator, Archaeological survey at Coranado, CA. Flower, Ike and Roth. August, 1981

Field Director/Archaeological Excavator, Exposed and recorded prehistoric remains at Leisure Technology near Oceanside, CA. Flower, Ike and Roth. August, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Rancho San Diego near San Diego, CA. Archaeological Consulting Technology Inc. June, 1981

Field Director/Archaeological Excavator, Exposed and recorded prehistoric remains at Leisure Technology near Oceanside, CA. Flower, Ike and Roth. May-June, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Rancho San Diego near San Diego, CA. Archaeological Consulting Technology Inc. April-May, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Otay Mesa near San Diego, CA. Cultural Research Systems Inc. April, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at South Pointe near Oceanside, CA. Regional Environmental Consultants Inc. February- March, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Carlsbad, CA. Regional Environmental Consultants Inc. February, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Mola near Oceanside, CA. Regional Environmental Consultants Inc. January, 1981

Archaeological Excavator, Exposed and recorded prehistoric remains at Rancho San Diego near San Diego, CA. Archaeological Consulting Technology Inc. December, 1980

Archaeological Excavator, Archaeological survey at Ramona, CA. Archaeological Systems Management Inc. December, 1980

Archaeological Excavator, Archaeological survey at Temecula, CA. Archaeological Systems Management Inc. November, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Leisure Technology near Oceanside, CA. Flower, Ike and Roth. August-November, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Rancho Arbolittos near San Diego, CA. Archaeological Consulting Technology Inc. October, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Quail Canyon near El Cajon, CA. Multi-Systems Analysis Inc. October, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Rancho San Diego near San Diego, CA. Archaeological Consulting Technology Inc. September-October, 1980

Archaeological Excavator, Archaeological survey at Lake Walford, CA. Archaeological Systems Management Inc. August, 1980

Archaeological Excavator, Archaeological survey at Ramona, CA. Archaeological Systems Management Inc. August, 1980

Archaeological Excavator, Archaeological survey at Del Mar, CA. Archaeological Systems Management Inc. July, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Choumas near Ramona, CA. Archaeological Systems Management Inc. May-June, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Descanso, CA. Multi-Systems Analysis Inc. May, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Cardinal Point near Oceanside, CA. Archaeological Systems Management Inc. March-May, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Glade near Santee, CA. Archaeological Systems Management Inc. March, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Oak Creek near Escondido, CA. Multi-Systems Analysis Inc. February March, 1980

Archaeological Excavator, Exposed and recorded prehistoric remains at Ramsey near Ramona, CA. Archaeological Systems Management Inc. March, 1980

Archaeological Excavator, Archaeological survey at the Pala Indian Reservation near Palomar, CA. Archaeological Systems Management Inc. December, 1979

Archaeological Excavator, Exposed and recorded prehistoric remains at Valley Center near San Diego, CA. Archaeological Systems Management Inc. December, 1979

Archaeological Excavator, Archaeological survey at Ranch Cielo near Lake Hodges, CA. Archaeological Systems Management Inc. December, 1979

Archaeological Excavator, Exposed and recorded historic remains at Old Town San Diego, San Diego, Flower, Ike and Roth. August-November, 1979

Fieldwork Conducted, Underwater:

Maritime Archaeologist, Investigation and Recordation of the Motor Barge Mertit, Stockton, California. Statistical Research Inc. October, 2003

Archaeological Diver, Investigation and recordation of the Burlington breakwater, Burlington, VT, Panamerican Consultants Inc. October-November, 2001

Archaeological Consultant, Investigation and recordation of the Burlington breakwater, Burlington, VT, Panamerican Consultants Inc. August, 2000

Archaeological Diver, Investigation of remote sensing targets Mobile Bay, Mobile, AL. Panamerican Consultants Inc. December, 1994

Remote Sensing Technician, Archaeological Survey offshore, Southbay Outfall project. San Diego, CA. Geoarch October 1994

Archaeological Diver/Survey Technician, Investigation of remote sensing targets. Washington Naval Yard, Washington D.C. ,Panamerican Consultants Inc. October, 1993,

Archaeological Diver, Exposure and recordation of six vessels and a slipway. Savannah, GA, Panamerican Consultants Inc. August-September, 1993.

Archaeological Diver/Survey Technician/Remote Sensing Technician, Archaeological survey, exposure and recordation of side-wheel steamer and liberty ship. Corpus Christi Ship Channel Port Aransas Tx. Panamerican Consultants Inc. June-July, 1993.

Archaeological Diver, Survey and recordation of U.S.S. Cumberland and C.S.S Florida, Norfolk, Va. Panamerican Consultants Inc. May, 1993

Archaeological Diver, Investigation of remote sensing targets Savannah River near Savannah, GA. Panamerican Consultants Inc. May, 1993

Archaeological Diver, Investigation of remote sensing targets offshore at Galveston Bay, Galveston, TX. Panamerican Consultants Inc. April, 1993

Archaeological Diver/Survey Technician/Remote Sensing Technician, Investigation of remote sensing targets offshore at Surfside, TX. Panamerican Consultants Inc. September, 1992

Remote Sensing Technician, Archaeological Survey offshore Carolina Beach, NC. Panamerican Consultants Inc. August, 1992

Archaeological Diver, Exposure and recordation of the J.D. Hinde in the Trinity River near Liberty, TX. Panamerican Consultants Inc. July, 1992

Remote Sensing Technician, Archaeological Survey near fort Ticonderoga, Lake Champlain, VT. Lake Champlain Maritime Museum, May 1992

Archaeological Diver, Investigation of remote sensing targets in the Port Mansfield Cut, Port Mansfield TX. Panamerican Consultants Inc. March, 1992

Archaeological Diver, Investigation of remote sensing targets in the Lavaca River, Lavaca TX. Panamerican Consultants Inc. March, 1992

Archaeological Diver/Draftsman, Investigation of remote sensing targets and exposure and recordation of an iron hulled steam vessel in the Lavaca River, Lavaca TX. Panamerican Consultants Inc. September, 1991

Remote Sensing Technician/Survey Technician, Archaeological Survey at Oregon Inlet, NC. Panamerican Consultants Inc. August, 1991

Archaeological Diver/Field Director, Directed investigation of a sensitive area offshore of Mobile Bay, AL. Panamerican Consultants Inc. July, 1991

Archaeological Diver, Archaeological survey Corpus Christi Ship Channel Port Aransas Tx. Panamerican Consultants Inc. May-June, 1991.

Archaeological Diver, Exposure and recordation of three shipwrecks in Chesapeake Bay near Lookout Point, MD. Panamerican Consultants Inc. March, 1991

Archaeological Diver, Exposure and recordation of a submerged caisson at the Pensacola Naval Air Station, Pensacola, FL. Panamerican Consultants Inc. February, 1991

Archaeological Diver, Archaeological survey of a submerged caisson at the Pensacola Naval Air Station, Pensacola, FL. Panamerican Consultants Inc. December, 1990

Archaeological Diver, Recordation and assessment of seven derelict vessels at Port Johnson, Bayonne, NJ. Panamerican Consultants Inc. November, 1990

Archaeological Diver, Investigation of remote sensing targets offshore of Asbury Park, NJ. Panamerican Consultants Inc. August-September, 1990

Archaeological Diver/Field Director/Remote Sensing Technician, Archaeological survey in Chesapeake Bay near Annapolis, MD. GAI Consultants Inc. April, 1990

Archaeological Diver/Survey Technician/Remote Sensing Technician, Archaeological survey in the Port Mansfield Cut, Port Mansfield TX, and The Brownsville Ship Channel, Brownsville, TX. Espey, Huston and Assoc. October November, 1989

Archaeological Diver, Exposure and recordation of the C.B. Comstock offshore of Surfside, TX. Costal Environments Inc. November-December, 1988

Remote Sensing Technician, Magnetometer survey at Ocean Beach near San Francisco, CA. Espey, Huston and Assoc. September-October, 1987

Archaeological Diver, Exposure and recordation of four vessels in the U.S. Ship Channel near Bayonne, NJ. James and Irion. June, 1987

Archaeological Diver, Archaeological Survey in the U.S. Ship Channel near Bayonne, NJ. James and Irion. April, 1987

Archaeological Diver, Investigation and recordation of remote sensing targets in the Sacramento River at Sacramento, CA. Espey, Huston and Assoc. June, 1986

Archaeological Diver, Investigation of remote sensing targets in the Sacramento River at Sacramento, CA. Espey, Huston and Assoc. February, 1986

Archaeological Diver, Investigation of remote sensing targets in the Mobile Ship Channel at Mobile Bay AL. Espey, Huston and Assoc. May-September, 1985

Archaeological Diver, Exposure and recordation of submerged vessels and defense works at Mobile Bay AL. Espey, Huston and Assoc. September-October, 1984

FUGRO CONSULTANTS INC.

Resume

Glenn S. Young, PG, LEED® AP

Principal Geologist & Manager, Environmental Services

Education:

M.S. Environmental Management, University of San Francisco, 1993

B.S. Geology, University of Colorado, Boulder, 1987

Professional Registration:

Professional Geologist, California, No. 6406

LEED® Accredited Professional, California

Certifications

40-hour Safety Training Course (29 CFR 1910.120) (current)

8-hour Hazardous Materials Supervisory Course

8-hour Bay Area Training Trust (BATT) Course (dormant)

Experience:

Mr. Young is a professional geologist with over 25 years of geo-environmental consulting experience in northern California. He currently manages Fugro's Environmental Services Department. He has managed the full range of contaminated site investigation and remediation projects, including construction manager for several multi-million dollar remediation projects under California State Superfund requirements. He routinely manages multi-disciplinary projects and "As-Needed" contracts for hazardous materials, including projects involving requirements of State and Federal agencies, including the DTSC, the RWQCB, the USACE, and the CDFG. Mr. Young has provided peer review services and strategic consulting for Brownfield Grant and Polanco projects in northern California and has provided hazardous materials consultation for a variety of large infrastructure and wetland restoration projects.

- **Oakland As-Needed Environmental Services, Oakland, California.** As Program Manager for Fugro's current "as-needed" contract with the City of Oakland, Mr. Young has managed numerous Consultant Assignments dating back to 1998. The Assignments have addressed a broad range of basic to complex environmental services including: soil and water data collection, such waste characterization to support City construction projects; creek sampling to support the City's Stormwater Protection Program; Phase 1 ESAs and Sub-Basin studies prior to infrastructure improvements; and more complex and comprehensive work for Phase 2 ESAs, UST investigations, remediation, and closures, risk assessment services, and Brownfield Grant assessments. Mr. Young has directed numerous site assessments for the City and its Redevelopment Agency and has routinely negotiated with State and local regulatory agencies regarding all phases of investigation, risk assessment, remediation, and case closure on behalf of the City.
- **San Francisco As-Needed Risk Management Services, SFDPW, California.** As Program Manager for Fugro's current "as-needed" contract with the City of San Francisco Department of Public Works, Mr. Young has managed hazardous materials investigations for water distribution, roadway improvement, library, school, park, and redevelopment projects. He recently completed the Remedial Action activities for the former Sharp Park Rifle Range Project. He was instrumental in negotiating the cleanup approach with CalEPA, DTSC that saved the City over $3 million. Other projects completed on behalf of the SFDPW include, the Octavia Boulevard Improvement Project; hydrogeologic and water quality investigation at the Upper Islais Valley and the Westside Basin for SFPUC's Groundwater Protection Division; stormwater program consultation, and a number of Spill Prevention Contingency, and Control (SPCC) Plans for UST operations at various City Departments.
- **City of Livermore Downtown Redevelopment Area – Brownfields Grant, Livermore, California**. Mr. Young Assisted the City of Livermore with the Brownfields Grants from the USEPA that they had won to characterize the Downtown Redevelopment Area. Mr. Young managed the project which included a number of Phase 1 ESAs for prioritized sites. Based on those findings, Fugro developed a scope of soil, groundwater, and soil-gas testing to evaluate the presence, extent, and potential human health risk

associated with historical sites uses. Key to the process was negotiating with Alameda County Health Services, the RWQCB, and the USEPA to provide the City with efficient consulting services as well as to strategize about the various agency concerns in the Downtown Core area. Fugro detailed the proposed site characterization activities in a Sampling and Analysis Plan (SAP) as required by the EPA, including the appropriate discussion regarding Data Quality Objectives (DQOs) and Indicators (DQIs). Fugro has completed the initial stages of site investigations and summarized findings to assist the Redevelopment Agency with certain mixed-use and residential developments.

- **Taylor Rail Yard, Los Angeles, California**. The Site has been used for rail yard operations since the early 1890s. A 17.67-acre portion of Parcel C is in the process of being redeveloped into a transit oriented mixed-use retail and high-density residential development. Previous investigations at the site in 2006 identified the presence of hydrocarbons, VOCs, SVOCs, and heavy metals in soil, and hydrocarbons and certain VOCs, specifically, PCE and TCE in groundwater at the site. Mr. Young was Principal-in-Charge for the completion of the site characterization that included soil, groundwater, and soil-gas assessment. On an expedited schedule, Mr. Young completed the site-characterization and

  Completed presumptive removal actions to meet unrestricted reuse criteria. Fugro utilized ProUCL software to demonstrate that residual lead, arsenic, and hydrocarbon impacts met residential criteria Fugro procured No Further Action (NoFA) from DTSC for the high density and common areas of the Site to meet a strategic financing milestone for the project.

  A Removal Action Workplan (RAW) was recently approved by the DTSC to remediate SVOC and heavy metal impacted soil for the remainder of the Site. The RAW will be implemented in Spring 2013.

- **East Bay Regional Park District On Call Services, East Bay, California**. Mr. Young provides environmental consulting services to the East Bay Regional Park District. These services include Phase I and Phase II Environmental Site Assessments. The services are for various properties either currently owned by the District or undergoing due diligence prior to purchase. The scope and cost of these services are determined on a case-by-case basis. Over the past 10 years, Fugro's Phase 1 and 2 ESA services have helped the District acquire well over 10,000 acres of land for open space and recreational uses, including a number of former industrial properties and waterfront land that will undergo wetland restoration.
- **Former Mission Village Dry Cleaners, Fairfield, California.** Mr. Young managed the investigation, strategic planning, corrective action plan and implementation, and groundwater remediation services at this former dry cleaners. He completed site characterization using CPT and MIP technology to complete high-resolution subsurface characterization of the PCE groundwater plume. Services included a feasibility study to determine the cost and effectiveness of in situ enhancement for the biodegradation of dry cleaner solvents at the site. Hydrogen Releasing Compounds from Regenesis were delivered to the target areas within the plume using direct push drilling equipment. Groundwater monitoring demonstrated that the in-situ biodegradation has been effective. Mr. Young used the RWQCB;s Low Threat Closure process to procure NoFA from the RWQCB. Recently, Fugro issued Fact Sheets to neighboring properties to satisfy RWQCB Public Participation Program (PPP) requirements.
- **Georgia Pacific Mill Site, Fort Bragg, California.** Mr. Young is providing peer review services to the City of Fort Bragg regarding the hazardous materials investigation, remedial, and risk assessment activities at the former Mill Site. This property comprises approximately 425 acres of former lumber mill land and ponds, representing almost 25 percent of the total land currently incorporated within the City of Fort Bragg. Mr. Young is also participating in regular stakeholder meetings as well as community workshops designed to inform the general public of findings and answer questions regarding the chemicals detected at the site. Recent efforts involve the evaluation of potential risk related to dioxin concentrations, evaluation of remedial alternatives, and wetland restoration at the Site. These services are being provided under Polanco requirements imposed by the Redevelopment Agency and its successor agency.

Resume

Paul A. Sorensen, PG, CHg, CEG

Water Resources Manager/Principal Hydrogeologist

Education:

MA, Geology, University of California, Santa Barbara, 1980

BS, Geological Sciences, University of Washington, Seattle, 1975

Professional Registration:

Professional Geologist, California, No. 5154

Certified Engineering, California, Geologist No. 1617

Certified Hydrogeologist, California, No. 154

Experience:

Mr. Sorensen has more than 30 years experience managing and directing projects related to hydrogeology, geology and engineering geology, with specific expertise in groundwater supply, basin analysis, and water resource management. His technical expertise includes regional groundwater basin analyses; perennial yield and basin water balance calculations; groundwater quality studies; aquifer test analyses; and water well, injection well, and monitoring well design and construction. Recent work has included serving as the responsible hydrogeologist for a variety of basin-wide water resource projects including basin analyses, basin-wide water balance and hydrologic budget conceptualization and calculations, and basin-wide aquifer modeling.

- **County of San Luis Obispo, Paso Robles Groundwater Basin Study.** Conducted a basin analysis, safe yield study, numerical modeling, and simulation of potential basin-wide buildout scenarios of the Paso Robles Groundwater Basin. The project included compilation and collection of an extensive data base of water wells and water quality analyses, characterization of aquifer conditions, definition of the lateral and vertical extent of the basin, and basin definition. Pumping test data were analyzed to ascertain aquifer characteristics, water level data were compiled, water level and change in water level contour maps were prepared, and aquifer storage volumes and change in storage volumes were calculated. A hydrologic budget (water balance) for the basin was calculated using both the change in storage method and the inventory method, and the perennial yield was calculated. Development of the numerical model refined the calculated perennial yield figure, and simulated the impacts to the basin from several potential buildout scenarios.
- **City of Pismo Beach, Meadow Creek Aquifer Analysis.** Conducted aquifer analysis, pumping test analyses, and geologic and hydrogeologic studies to evaluate the feasibility of incorporating the Meadow Creek wells into the City's water supply system. The investigation included an assessment of the relationship of the wells and aquifer to the main Santa Maria Groundwater Basin, and the hydrogeologic communication between the wells and other water supply components of the City.
- **City of Pismo Beach, Expert Witness, Los Robles del Mar Litigation.** On behalf of the City, we provided assistance in the defense of claims related to the denial of the project by LAFCO for incorporation of the project into the City and the availability and reliability of the City's water supply.
- **GEI Consultants (on behalf of City of Pismo Beach, City of Arroyo Grande, City of Grover Beach, and Oceano Community Services District), Northern Cities Management Area Annual Reports.** Assisted GEI Consultants in the sampling and monitoring of the key sentry wells in the Northern Cities area for purposes of assessing potential seawater intrusion, and provided technical support and report review for the preparation of quarterly and annual reporting as required by the Court as a result of the Santa Maria Basin litigation solution.
- **Templeton Community Services District, Various Investigations.** As District Hydrogeologist, Mr. Sorensen is involved in all water supply evaluation and development projects for the CSD. Investigations include evaluation of presence and distribution of Salinas River underflow to identify the District's legal rights to groundwater; groundwater flow modeling and calculation of basin yield; feasibility investigations of riparian water supplies; and design and construction management of new groundwater production wells.

Resume

Paul A. Sorensen, PG, CHg, CEG

Water Resources Manager/Principal Hydrogeologist

- **GEI Consultants (on behalf of County of San Luis Obispo FCWCD), Paso Robles Groundwater Basin Water Banking Feasibility Study.** Assisted GEI Consultants in the analysis of the feasibility of developing a groundwater banking project in the Paso Robles Basin. Work effort included establishing hydrogeologic criteria for recharge and banking operations, evaluating basin-wide hydrogeologic conditions, and selecting potential areas for analysis. The Fugro-developed basin-wide numerical flow model was then used to simulate recharge and banking scenarios to evaluate potential impacts and benefits to the basin from implantation of the recharge/banking concept.
- **Nipomo Community Services District, *Various Investigations*.** Performed several hydrogeologic and numeric modeling investigations related to the proposed upgrade and expansion of the District's wastewater treatment facility, including assessment of the shape, size, and potential growth of the effluent mound beneath the facility, a water quality fate and transport evaluation of the off-site impacts of the effluent mound, estimation of the volume of effluent percolating laterally into and the subsequent water quality degradation of Nipomo Creek, and several detailed hydrogeologic feasibility investigations of nearby properties for potential development of additional percolation pond facilities
- **Atascadero Mutual Water Company, Nacimiento Water Project Recharge and Recovery Program.** Developed an aquifer recharge and recovery program to recharge up to 5.4 MGD of imported surface water from the Nacimiento Water Project (NWP) during the summer months of each year in a percolation pond in the Salinas River alluvium. AMWC will recover the recharged NWP water during the summer months using both new and existing wells located adjacent to and downstream of the pond. Performed field investigations to assess the infiltration capacity, including exploration trenching, laboratory analyses of sediment samples, and the performance of a long-term infiltration test in a pilot percolation basin. .
- **Tehachapi-Cummings County Water District, Cummings Valley Groundwater Basin Model.** Mr. Sorensen acted as Project Manager and Lead Investigator to conduct a basin analysis and safe yield study of the Cummings Valley Groundwater Basin. The project included compilation of data from all water wells in the basin, preparation of geologic and hydrogeologic cross sections, and development of a conceptual model of the basin, including a hydrologic budget. Second phase work included the development and calibration of a numerical flow model to be used as a predictive tool for groundwater management scenarios. As part of the work, water level data were compiled, water level and change in water level contour maps were prepared, and aquifer storage volumes and change in storage volumes were calculated. Additionally, the hydrologic budget (water balance) for the basin was calculated using both the change in storage method and the inventory method, and the perennial yield was calculated.
- **Bear Valley Community Services District, Tehachapi.** Production Well Field Analysis; Feasibility Analysis, Conceptual Design, Water Rights Evaluation, and Implementation of Inter-Basin Water Transfer Agreement; Alluvial Basin Safe Yield Analysis; Recharge Pond Feasibility Investigations; Well Rehabilitation; Alluvial Basin Nitrate Contamination Investigation; and New Well Design and Construction. Long-term relationship as contract District geologist includes the analysis of production and water quality history of 25-well production well field to provide options for increasing supplies. Additional tasks completed include preparation of Water Supply Master Plan; technical analysis for feasibility investigation of proposed inter-basin water transfer arrangement between CSD and neighboring District; feasibility analysis of artificial recharge surface infiltration ponds designed to recharge basin with up to 2,000 acre feet of imported surface water per year; and design and construction management of new groundwater production wells.

Professional Affiliations:

- Association of Ground-Water Scientists and Engineers
- Groundwater Resource Assn. of California (past President, Central Coast Branch)
- Central Coast Geological Society (founding member, past President)

Resume

Jeriann N. Alexander, PE, REA

Principal Engineer

Education:

M.S. Civil Engineering, University of California, Berkeley, 1984
(specialization: geotechnical engineering)
B.S. Agricultural Engineering, California Polytechnic State University, San Luis Obispo, 1983
Continuing Education Seminars: ASTM Environmental Site Assessments and Transaction Screens, Risk Based Corrective Action Applications, Human Health Risk Assessments, Remedial Actions, UST Regulations, Geotechnical Engineering, Regulatory Oversight, RWQCB Risk Based Screening Level Methodologies, CEQA/NEPA and EPA Risk Assessments, Groundwater Resource Management (2009), Vapor Intrusion Seminars and ITRC Training (2009), Stormwater and Construction Dewatering Permit Compliance (2009/2010), Low Risk Closure (2012), ASTM 1527 Revisions (2013)

Professional Registration:

Professional Civil Engineer, California No. 40469
Professional Civil Engineer, Texas No. 113591
Registered Environmental Property Assessor, National No. 516237
Registered Environmental Assessor California No. 3130 (1992 until 2012 when the program ended).

Certifications:

OSHA 29 CFR 1910.120 40-hr. Hazardous Waste Training (current Nov. 2012)
OSHA 29 CFR 1910.120 8-hr. Training for Supervisors (current Jan. 2003)
ISO 9001:2000 Internal Auditor Certification (2006/2008)
ISO 18001:2007 Internal Auditor Certification (2008

Experience:

Ms. Alexander brings over 28 years of environmental consulting experience to Fugro. Her environmental experience and training are uniquely complimented by her understanding and practical application of civil and geotechnical engineering practices. Projects benefit from her broad experience and knowledge of mechanical processes and waste stream generation and disposal practices.

Ms. Alexander has managed various environmental projects including Phase I and II environmental site assessments (ESA), facility audits, underground storage tank removals/closures, site characterization studies, hydrogeologic evaluations, remedial investigations, feasibility studies, and risk assessments. She has consulted on sites containing soil and/or groundwater impacted by lead; chromium; cyanide; DDT and other chlorinated pesticides and herbicides, fertilizers, cleaning solvents including Naphtha, PCE and TCE; oil containing PCB's; methane; waste oil; the full range of motor vehicle fuels; mine tailings; and incinerator wastes containing dioxin.

One of Ms. Alexander's particular strengths is with regard to state and local environmental regulations. She is particularly knowledgeable of the evolving regulations with respect to the use of risk assessments to attain reasonable environmental site closures. She has ongoing dialog with the local, city and county environmental agencies throughout California, and attends continuing education seminars on environmental trends. Ms. Alexander has applied the ASTM Risk Based Corrective Action (RBCA) and RWQCB Environmental Screening Level (formerly called Risk Based Screening Level) procedures in her evaluations of chemical release sites.

- **Tassafaronga HOPE VI Revitalization Plan and Brownfields Cleanup Grant Implementation. Oakland, California**. Managed as-needed contract for environmental and geotechnical consulting services to the Oakland Housing Authority (OHA) in east Oakland. The redevelopment site was occupied by a housing project constructed in the 1960's and is slated for redevelopment into a medium density residential development with new infrastructure. Ms. Alexander has planned and implemented site assessment activities at this property beginning with acquisition Phase I studies, Phase II Site Investigations, Site Demolition, Remedial Investigations to develop cleanup plans, and culminating with implementing cleanup activities which were completed in 2008. The site was impacted by heavy metals in an area formerly used as a junk yard. Ms. Alexander assisted OHA in securing a Brownfields Cleanup Grant for removal of hazardous materials. All work including development of RAP, QAPP, and HSP documentation, and Closure Reports were completed in accordance with EPA guidelines.

Resume

Jeriann N. Alexander, PE, REA

Principal Engineer

- **Marine Terminal, Environmental Site Assessment/Strategic Consultation, Port of Oakland, California Oakland, California.** Prime consultant for 24-acre Ninth Avenue Terminal property in the Oakland Inner Harbor Coordinated multiple, phased, extensive environmental assessment and investigation activities, and provided litigation and cost recovery services, to evaluate the past operations of over 100 businesses that had/have occupied the property since the late 1890s including a cannery; lumber companies; metal plating, recycling and refinishing businesses; fertilizer formulators; chemical warehousing; bulk fuel processing; and general drayage. Hazardous materials and chemical contaminants known to have impacted the soil and groundwater resources include heavy metals, solvents (volatile organic compounds [VOCs]), cyanide, pesticides, hexavalent chromium, and petroleum hydrocarbons. In addition, there are known methane vapor plumes below former bulk petroleum processing plants.

  Services included: (1) extensive archival research, compilation, and review of historical records and data; (2) development and implementation of soil, soil-gas, and groundwater investigations to collect litigation-quality data, (3) assessment of a complex network of abandoned and active utilities acting as potential preferential pathways for contaminant migration; (4) evaluation of remedial alternatives and costs for various site redevelopment scenarios; (5) compliance groundwater monitoring and (6) litigation support for cost recovery efforts. Further, provided assistance to the Port in all communications with the lead regulatory agencies, the ACHCSA and RWQCB. Her exhaustive efforts and shoulder-to-shoulder collaboration with Port staff and its outside counsel have resulted in the Port's successful cost recovery actions from PRPs. Reporting included: Environmental Site Assessments, Site Characterization Reports, Storm Water Control Evaluation Reports, Soil Vapor Survey Report, Infiltration and Inflow Survey and Evaluation Report, and UST Reports, and Remedial Action Evaluation Reports (1995-2005)

- **Soil and Groundwater Assessment, Proposed Soundwall Alignment, US 101 at Wendy Drive, Thousand Oaks, California.** The project includes constructing a soundwall in the vicinity of the downgradient edge of a contaminated groundwater plume. Caltrans required the study to assess possible impacts to construction workers while constructing wall and surface drainage improvements and wall foundation elements. Ms. Alexander conducted review of historic environmental records for the adjacent former electronic component manufacturing facility and prepared a work plan to conduct the soil and groundwater assessment along the proposed soundwall alignment. Caltrans environmental engineering departments in District 4 and 5 reviewed and approved the work plan. Fugro collected samples in accordance with the work plan and prepared a summary report complete with recommendations for addressing environmental concerns during constructions.

- **GREAT Program Phase I Recycled Water Backbone System Projects – Phase I Initial Site Assessment and Phase II Environmental Sampling and testing Activities Oxnard and Port Hueneme, California.** Ms. Alexander was the project manager responsible for conducting a Phase I Initial Site Assessment, and a subsequent phase of environmental sampling and testing activities, for a proposed pipeline construction project, extending along more than 10 miles through an area of coastal fringe properties in Ventura and Oxnard, California. Historically, the area of the alignment has transitioned from rural agricultural to subdivided commercial and residential uses. The ISA, conducted in general accordance with All Appropriate Inquiry rules, identified that the potential exists for chemical, biological and/or hazardous waste releases to have impacted soil and groundwater within the zone of construction for the proposed pipeline projects.

  Ms. Alexander developed a soil and groundwater sampling and testing plan based on the findings of the ISA which targeted sampling locations biased to areas of suspected releases along the alignment. The plan comprised submitting selected soil and grab groundwater samples from the proposed construction zone of the proposed improvements for chemical testing. In addition, selected grab groundwater samples were analyzed for an expanded suite of analytes to provide preliminary data to evaluate NPDES permit requirements and the quality of proposed construction dewatering discharges.

  Chemicals of potential concern were detected in soil near former gasoline service stations. Impacts to groundwater suggest that construction dewatering water will need to be settled and possibly pre-treated prior to discharge under an NPDES permit.

Resume

Jeriann N. Alexander, PE, REA

Principal Engineer

- **ADL Study, State Route 154, Santa Barbara County, California.** Project manager for several phases of ADL studies along several sections of State Route 154 slated for improvement projects. Ms. Alexander designed the soil sampling program to characterize vertical columns of soil for each area of interest and reviewed and evaluated the analytical data to determine whether the Caltrans Variance for reuse of excavated soil would need to be used for the areas. Data sets were compiled and evaluated using the Pro UCL statistical program. One area of concern needed to be re-evaluated and was found to contain a sliver fill containing elevated concentrations of lead from a previous roadway project in the vicinity. Consulted with Caltrans to gain approval of the data.

- **State Route 4 Bypass Projects, Contra Costa County, California.** Primary environmental professional performing site assessments and soil and groundwater investigations along Segment 2 of the Highway 4 Bypass. She was initially involved in conducting the Phase I and II Preliminary Environmental Assessment studies of the Bypass Alignment in 1994/1995 and 1997, respectively. These initial studies indicated that Segment 2 of the Bypass extended through the Brentwood Oil and Gas Field. Phase I and II site reconnaissance observed oil wellheads, above ground storage containers and indications of distribution pipelines sporadically placed throughout the right-of-way. Developed and implemented investigations to evaluate potential risks posed to construction workers tasked with constructing sound walls, drainage systems and roadbeds. Studies have identified lead concentrations in shallow roadbed materials, and localized zones of soil and groundwater contamination due to former oil well site practices. Developed protocols to be implemented by construction workers in the event that buried impacted materials were encountered. Upon completion of site investigations, negotiated and obtained "No further action" directives from the Central Valley Regional Water Quality Control Board.

- **Former Military Reserve Base/New Office Campus, Dublin, California.** Project manager for an environmental investigation and remedial activities in the proposed construction area of a new office/commercial redevelopment campus in Alameda County. The proposed campus was to be sited on property formerly occupied by a military reserve base, which was active in the 1940's and 1950's. Review of former base maps suggested the presence of an incinerator, steam pipelines and USTs. Fugro developed and implemented an investigation to determine the extent of fill containing incinerator wastes and lead, impacts due to asbestos-coated steam lines, and the impacts related to two former USTs. Coordinated the efforts of several subcontractors to physically remove and dispose of the impacted materials and 1,200 feet of buried pipeline. Services during remediation involved collecting and analyzing waste samples to characterize the material for disposal, and collecting confirmation samples at the limits of excavation to document that the site no longer contained hazardous materials, which would represent a risk to construction workers. Investigation and field activities were successful and the site achieved "Clean Closure" status from Alameda County and the California Integrated Waste Management Board in 2005 and 2007.

- **Moorpark State Route 23 Sound Walls - Preliminary Subsurface Exploration for Aerially Deposited Lead - Ventura, County, California.** Fugro was retained to provide foundation design recommendations for two adjacent Sound Walls to be located along the western shoulder of southbound State Route 23 (SR 23) north of Tierra Rejada Road in Moorpark, California. Based on Caltrans District 7 review of the Fugro geotechnical foundation report for the walls and the understanding that the embankment fill has been in place since the late 1960's, Caltrans engineering requested that an assessment of ADL within the construction zone be conducted. Fugro developed a preliminary scope of work to assess the embankment fill area conducted in phases, with the initial phase to include an evaluation of the presence of ADL in the upper three feet of fill. The data was collected and reviewed by Caltrans and no further work was required.

Professional Affiliations:

- American Society of Civil Engineers
- Association of Environmental Professionals
- Groundwater Resource Association

Resume

Peter M. Leffler, PG, CHg
Associate Hydrogeologist

Education:

MS Hydrology/Hydrogeology, University of Nevada, Reno, 1989

BS Geology, University of Illinois, Champaign-Urbana, 1986

3-D Groundwater Flow and Transport using Visual MODFLOW, Vancouver, British Columbia, Waterloo Hydrogeologic, 2000

Groundwater Modeling II - Advanced Applications and Strategies for Dealing with Pitfalls in MODFLOW, MODPATH, and MT3D, Vancouver, British Columbia, Waterloo Hydrogeologic, 2001

Model Calibration and Predictive Uncertainty Analysis using PEST, San Francisco, CA, California Groundwater Resources Association, 2003

Vadose Zone Hydrology, Contamination, and Modeling (HYDRUS), Los Angeles, CA, University of California Cooperative Extension & California Groundwater Resources Association, 2008

Construction Dewatering and Groundwater Control – Design and Application, San Francisco, CA, American Society of Civil Engineers, 2009

Professional Registration:

Registered Geologist, California, No. 6475, 1996

Certified Hydrogeologist, California, No. 462, 1996

Experience:

Mr. Leffler has more than 20 years of experience performing hydrogeologic studies in California. His experience includes groundwater basin analysis and management; design and construction management for water wells, test wells, and monitoring wells; pumping tests and data analysis; evaluation of artificial recharge options, salt loading impacts analysis, salt water intrusion analysis, groundwater modeling, water resources planning, water quality, contaminant hydrogeology, and surface water-groundwater interaction. His responsibilities have included proposal preparation, project management, fieldwork, data analysis, report preparation, presentations, client contact, and interaction with regulatory agencies. .

- **East Bay Municipal Utility District – Contra Costa County.** An aquifer storage and recovery (ASR) well feasibility study was conducted at a site located in east Contra Costa county. The project has included evaluation of the regional hydrogeology, a water balance study, installation of a large diameter pilot ASR well, a large-scale aquifer test involving 20 monitoring wells, and construction/calibration/application of a groundwater flow and solute transport model (MODFLOW/MT3D). Key aspects of the model included the interaction between groundwater and the Bay-Delta system (rivers and sloughs), and potential changes to groundwater levels and total dissolved solids from proposed ASR operations. The model was calibrated to monitoring well drawdown results from the regional scale pumping test conducted using the ASR well and monitoring well network.

  East Bay Municipal Utility District – Alameda County. The ASR site located in Alameda County is currently undergoing final permitting for implementation of a 1 MGD pilot scale project. Recent activities in preparation for project start-up have involved additional extraction and injection testing using the large-diameter ASR well and monitoring water level changes in surrounding observation wells. A long-term and regional scale pumping test was conducted in 2010 to evaluate aquifer parameters, boundary conditions, and drawdown impacts from continuous pumping at 1,400 gpm over two months. Recovery data were collected for another two months after pumping ceased.

- **City of Gilroy Municipal Well Siting Study, Test Well Installation, and Production Well Design/Installation.** Eight 5-inch diameter test wells were installed at various sites to evaluate well yield and water quality. Pumping tests were conducted on all of the test wells to evaluate aquifer parameters, specific capacity, and to provide a basis for estimating full-scale municipal well yields. A large diameter (18-inch) municipal production well was installed at one of the test well sites. The scope of work for the production well site included preparation of engineering well specifications, construction management, pumping tests, data analysis, and report preparation.

Resume

Peter M. Leffler, PG, CHg

Associate Hydrogeologist

- **Scotts Valley Water District.** Conducted a variety hydrogeologic studies including: assessment of artificial recharge, water transfer, and groundwater exploration alternatives, evaluation salt loading impacts to groundwater from application of recycled irrigation water, preparation of well specifications, construction management and design for test wells and production wells, aquifer testing and data analysis, groundwater modeling, water balance studies, and preparation of annual groundwater basin management reports.
- **Santa Lucia Preserve/Rancho San Carlos.** Performed a comprehensive hydrogeologic study for a 20,000-acre site proposed as a housing and golf course development. The water supply for the project was developed from low yield fractured bedrock wells. Responsibilities included project management, evaluation of aquifer testing and water level data, assessment of groundwater quality data, evaluation of project impacts to on-site and off-site water resources, report writing, and interaction with regulatory agencies.
- **Port of Oakland.** Project hydrogeologist with responsibility for development of the hydrogeologic conceptual model. In addition to an extensive review of existing data, project work included drilling and installation of 14 new test/monitoring wells, pumping tests, and assessment of existing groundwater quality. The conceptual model provided the basis for a groundwater computer model of saltwater intrusion using the SUTRA code. Numerical and analytical techniques were used to evaluate the potential for saltwater intrusion impacts caused by proposed dredging.
- **BART Dewatering Feasibility Study.** Served as project manager and field hydrogeologist for a dewatering feasibility study in Fremont, California for planned expansion of the BART tracks in a subway tunnel. The project involved construction management and observation for installation of a pumping wells and monitoring wells at three locations, aquifer testing, data analysis, and report preparation.
- **UNWI 9 Pipelines Oak Avenue Dewatering Project.** Conducted an aquifer characterization study that included the construction and development a test well and three piezometers in an unconfined aquifer. Aquifer testing data were analyzed to obtain aquifer parameters, and the data were used to evaluate proposed dewatering operations at the site.

Speaker, Guest Lecturer

- Instructor, Groundwater Resources Association of California, Low Yield Aquifer Testing Seminar, April 26 and 27, 2004. Primary topic covered was conducting pumping tests on fractured bedrock wells.
- Speaker, Nevada Water Resources Association, Annual Conference, February 2 and 3, 2011. Presentation on technical aspects of groundwater-surface water interaction.

Professional Affiliations

- National Ground Water Association
- Groundwater Resources Association of California
- Geological Society of America
- American Geophysical Union

Resume

William A. Mitchell, PG

Geologist

Education:

B.S. in Geology, University of California, Davis, 1982

Post Graduate Studies in Geology, California State University, Long Beach, 1983 through 1985

Professional Registration:

California Registered Geologist No. 6372

California Registered Environmental Assessor No. 02451 (until 2012 when the program ended)

Certifications:

Certificate in Hazardous Materials Management, University of California, Irvine, 1994

Certificate in Site Assessment and Remediation, University of California, Irvine, 1994

40-Hour OSHA Training for Hazardous Waste Operations

AHERA Asbestos Inspection Training

Experience:

Mr. Mitchell has over 25 years of experience in geologic and seismic studies as well as environmental site assessments. Such experience includes several geologic/seismic studies in the Los Angeles area for proposed hospital facilities, school sites, and commercial properties. The scope of these investigations included the collection and evaluation of geologic data for siting and developing the facilities referenced above. Mr. Mitchell has also performed geologic mapping of cut slopes during construction grading of a prison facility located in the Los Angeles area.

Mr. Mitchell has completed over 2,500 Phase I Environmental site assessments which have included high rise office buildings, grocery stores, retail stores, hospitals, school sites, mortuaries, various manufacturing facilities and warehouses. He also performed these assessment services for mass-transit projects, including siting proposed alignments for light-rail transportation projects. Phase II Environmental Site Assessments include both soil and groundwater sampling and analysis. Mr. Mitchell has also performed a methane gas assessment for a proposed sewer project in the Los Angeles area. The project involved the installation of methane gas monitoring wells, and the subsequent sampling and analysis of gas contained within the wells. Mr. Mitchell also has worked on a project to estimate the remediation costs associated with the construction of a proposed mass-transit subway through the San Fernando Valley.

Mr. Mitchell's experience includes the following projects:

- **Bradley Class II Landfill, Sun Valley, California:** Mr. Mitchell performed engineering geology tasks associated with an addition to the Bradley Class II Landfill located in Sun Valley, California. Specific tasks included: geologic mapping of the area of the addition during the initial grading phase; soil engineering testing of the materials used for the liner, including sieve analyses, Attenburg analyses, and soil density testing; hydraulic conductivity testing of the installed clay liner, and report preparations duties.
- **Kaiser Hospital facility, San Diego, California:** Mr. Mitchell conducted a preliminary geologic/seismic investigation for a Kaiser Hospital facility in the San Diego area. Duties included researching geologic literature for local geology, fault evaluation, geologic hazards analysis, and local geology mapping. The investigation also included a review of historic aerial photographs.
- **Los Angeles County Honor Rancho Prison Facility, near Castaic, California:** Mr. Mitchell mapped cut slopes for this construction grading project. The primary purpose of the mapping was to evaluate the stability of the cut slopes after grading. Several slope stability problems were encountered due to perched groundwater, faults, and adverse dipping beds. In a few cases, buttress fills were placed under his supervision.

Resume

William A. Mitchell, PG

Geologist

- **NORS Project, West Los Angeles, California:** Mr. Mitchell was in charge of installing several groundwater wells, used for both groundwater monitoring and methane gas monitoring, for a replacement sewer project in West Los Angeles. His duties also included sampling for both groundwater and methane gas.
- **Los Angeles Light Rail Project, Green Line Alignment, Los Angeles Airport, California:** Mr. Mitchell conducted an environmental site assessment for the Los Angeles Light Rail Project. The alignment was approximately two miles long and located near LAX. Tasks included: historical and current site use evaluation for potential sources of soil/groundwater contamination that may have been encountered during the grading of the project; evaluation of former oil and gas wells that may have been along the alignment; review of previous environmental and geologic reports, and preparation of a report. Mr. Mitchell also conducted a similar project was conducted for an 8 mile light rail alignment in Pasadena, California.
- **Bakery Facility, City of Industry, California:** Mr. Mitchell conducted a comprehensive environmental site assessment for this bakery facility. Tasks included: supervising a soil gas survey of the facility; conducting a Phase I Environmental Site Assessment; installing groundwater monitoring wells; collecting soil and groundwater samples for chemical analysis, and providing a cost estimate to perform the necessary remedial work for soil contamination (chlorinated solvents and hydraulic oil) that was found during the assessment.
- **San Fernando Valley Extension of the Metrorail Subway Project:** Mr. Mitchell prepared a soil and groundwater remediation feasibility study for the proposed project. This included a review of the numerous past environmental investigations conducted along the proposed alignment; a determination where additional subsurface assessment was needed; and a cost estimate for different remedial strategies for cleanup in contaminated areas.
- **Bank Portfolio Project, Central Kansas:** Mr. Mitchell completed 21 ASTM Phase I Environmental Site Assessments in 19 days, which also included: limited asbestos sampling, lead-based paint evaluation, and radon risk analysis.
- **Various Southland 7-11 Retail And Gas Station Sites, California, and Various Texaco Gas Stations, Northern California:** Mr. Mitchell completed approximately 20 Phase I Environmental Site Assessments of proposed and existing sites and worked on site closure activities for several Texaco gas stations in Northern California, including permitting activities for facility closure and well abandonment.
- **MacArthur BART Transit Village Project, Oakland, California.** Mr. Mitchell completed a Phase I Environmental Site Assessment for the City of Oakland Public Works Agency of a project that included the MacArthur BART Station and associated parking lots and approximately 38 other parcels that include residential, retail, and light commercial uses.
- **City of Petaluma Streetscape Improvement Project, Petaluma, California.** Mr. Mitchell completed a Phase I Environmental Site Assessment for a 750-foot strip of land adjacent to Copeland Street in Petaluma, California. The work was done to evaluate potential soil contamination that might be present in the shallow soil during a sidewalk and street improvement.
- **Sacramento County Regional Transit District, Sacramento, California:** Mr. Mitchell completed separate Phase I Environmental Site Assessments for two light-rail stations located in the Sacramento area that were planned to be renovated.
- **Beale Air Force Base, Marysville, California:** Mr. Mitchell conducted a Phase I Environmental Site Assessment for the privatization of the Beale Air Force Base housing facilities located on the air force base. The assessment also included limited soil sampling and testing for lead associated with an asbestos and lead-based survey of the said residential improvements.

Resume

William A. Mitchell, PG

Geologist

- **Castle Air Force Base, Atwater, California:** Mr. Mitchell conducted a Phase I Environmental Site assessment of three commercial buildings that were located within the former Castle Air Force Base. The assessment included the review of numerous records associated with the air force base and the on-going groundwater pump-and-treat remediation at the facility.
- **Mather Air Force Base, Sacramento, California:** Mr. Mitchell Mr. Mitchell conducted a Phase I Environmental Site assessment of a vacant portion of the Mather Air Force for a proposed commercial development located within the Mather Air Force Base. The assessment included the review of numerous records associated with the air force base and the on-going groundwater pump-and-treat remediation at the facility.

Professional Affiliations:

- None

Resume

Karen A. Emery. PG

Senior Project Geologist

Education:

Bachelor of Science Degree in Geology, California State University Hayward, 2004

Professional Registrations

Professional Geologist, California, No. 8788

Certifications

40-Hour HAZWOPER Certified, Issue Date, May 27, 2005.

Experience:

In over 8 years of professional experience, Ms. Emery has developed a range of capabilities involving writing Phase I and Phase II Environmental Site Assessments, Remedial Action Plans (RAPs), Removal Action Work Plans (RAWs), Sampling and Analysis Plans (SAPs), Quality Assurance Project Plans (QAPPs), and Closure Reports.

Ms. Emery has experience in data research, collection, and analysis. She also has experience with numerous field investigations including underground storage tank removal, site characterization studies, remedial investigations, pump tests, and construction oversight including pier drilling and pile driving observation. She has also assisted in geologic field investigations including fault trenching and landslide evaluations.

The recent projects Ms. Emery has worked on are listed below:

- **City of Oakland "As Needed" Environmental Services, Various Projects.** Ms. Emery has planned and implemented studies for numerous sites investigated under Fugro's current "As-Needed" environmental services contract with the City including the completion of various Phase II Environmental Site Assessments, UST removal oversight, stormwater compliance sampling, water sampling of various creeks within the City, and various site and waste characterizations to support infrastructure improvement projects.

- **Coliseum – BART Redevelopment Project– Brownfields Assistance Grants, Oakland, California.** Assisted the City of Oakland with the preparation of a Master QAPP for the redevelopment area which comprises approximately 11.5 square miles of poorly maintained industrial and institutional properties. Ms. Emery has prepared several SAPs for the City to satisfy USEPA Brownfield QAPP and SAP requirements. Ms. Emery has also planned and implemented numerous Phase II Environmental Site Assessments on several properties identified by the City of Oakland as prime locations for redevelopment.

- **Clinton Commons, Oakland, California.** Ms. Emery planned and implemented a Phase II Environmental Site Assessment for a proposed affordable housing project located in the Eastlake/Lower San Antonio neighborhood of Oakland. Results of the investigation identified the presence of elevated concentrations of lead and TPH in shallow fill at the site. Ms. Emery assisted with the preparation of a Preliminary Endangerment Assessment for the site which was reviewed and approved by the DTSC. Ms. Emery also assisted with the preparation of a Soil and Groundwater Management Plan which was utilized during the redevelopment of the site to consolidate lead-impacted fill beneath the planned podium structure. Ms. Emery routinely negotiated with the DTSC, and all work conducted at the site was performed with DTSC oversight and approval

- **IHNC/East Bank Industrial Area – New Orleans, Louisiana.** Ms. Emery provided Third Party pump test data collection for the Inner Harbor Navigation Canal (IHNC) Floodwall project. She managed the field pump test at one of four sites for the project, including real-time monitoring of IN-SITU transducer data, manual depth to water readings in pumping and observation wells for comparison purposes, and maintaining a constant pumping flow rate per Client requirements. Pump tests were conducted on a 24-hour basis over a 5 to 7 day period. Other duties included management of field staff, pre-pump test data collection, transducer installation, and quality control review of data, processed data, and the transmittal of daily deliverables to the IHNC Litigation Team.

Resume

Karen A. Emery. PG

Senior Project Geologist

- **Bayside Groundwater Project, 2010 Phase I Well Aquifer Test – San Lorenzo, California.** East Bay Municipal Utility District (EBMUD) conducted an extended duration constant-rate pumping test in the summer and fall of 2010. The pumping test involved pumping the Phase 1 Well located in San Lorenzo at a constant rate of 1,400 gpm for eight weeks. Ms. Emery's duties included monitoring water level responses in a network of 24 monitoring wells located at various distances from the pumping well during the eight week test. She also assisted with water level recovery data collection from the monitoring well network for another eight weeks after pumping ceased. Her activities included installation and/or reprogramming of transducers in the various wells, obtaining depth to water readings, and downloading of transducer data on a weekly basis. Data collected was used to assess pumping effects and aquifer parameters in the South East Bay Plain Groundwater Basin, in the Niles Cone Groundwater Basin to the southeast, and in the transition zone between the two groundwater basins.

- **California Prison Receivership – Various Prison Projects.** Ms. Emery was the field manager for the investigation/assessment (Phase I / II) of development areas located inside the confines of Folsom State Prison and the Northern California Youth Correctional Center (Former Karl Holton Youth Facility and Former DeWitt Nelson Youth Correctional Facility) in Stockton, and the area of the prison farm and outlying support areas surrounding California State Prison Solano and the California Medical Facility in Vacaville. Ms. Emery coordinated all phases of the investigations and coordinated with California Department of Corrections and Rehabilitation officials to satisfy prison safety requirements. Ms. Emery also provided oversight of the extensive hazardous materials surveys of existing vacant structures at the Stockton facility.

- **Oakland Housing Authority, Tassafaronga Village, Oakland, California.** Ms. Emery assisted the Oakland Housing Authority with As Needed Consultation Services including Phase II Environmental Site Assessments and an indoor-air survey. Ms. Emery also assisted with the preparation of a Removal Action Work Plan, approved by the Department of Toxic Substances Control in September 2008. Ms. Emery also planned and implemented remediation of pesticide, petroleum hydrocarbons, and heavy metal impacted soil in September 2008 in accordance with the DTSC approved RAW. After removal action, closure was granted by the DTSC in October 2008.

- **Former Sharp Park Rifle Range, Pacifica, California.** Ms. Emery assisted with the planning and implementation of removal actions at the site in accordance with a DTSC approved RAW. Removal actions consisted of the excavation and relocation of approximately 17,000 cubic yards of metal impacted soil into a consolidation cell at the site. Ms. Emery provided field oversight of the construction activities and coordinated all confirmation sampling and analyses. She also assisted with the preparation of the Operation and Maintenance Plan which will be used by the site owner, San Francisco Recreation and Parks Department, to provide long-term maintenance and management of the soil cap and management of the metals impacted soils at the site.

- **Santa Paula Water Recycling Facility – Environmental Site Assessment, Santa Paula, California.** Conducted a Phase I Environmental Site Assessment to assist Santa Paula Water LLC with due-diligence requirements. Also identified recognized environmental conditions judged to have the potential to affect construction workers at the site.

- **Former Mission Cleaners – Groundwater Plume, Fairfield, California.** Ms. Emery has planned and implemented various site investigations including groundwater monitoring, well installation, and a CPT/MIP study. Groundwater data generated from the various studies was used to map flow direction of tetrachloroethene plume and perform a preferential pathway study. Ms. Emery also prepared a Site Conceptual Model for the Regional Water Quality Control Board (RWQCB) to characterize the site for eventual closure in early 2012. Ms. Emery routinely negotiated with RWQCB, and all work conducted at the site was performed with RWQCB oversight and approval.

- **Washington Hospital – Environmental Site Assessment, Fremont, California.** Conducted Environmental Site Assessments at the site of the Center for Joint Replacement to evaluate shallow subsurface soil for construction worker health and safety. Ms. Emery also assisted with the evaluation of soils for offsite disposal.

Resume

William H. Godwin, CEG

Principal Engineering Geologist

Education:

BS Geology, University of Redlands, Redlands, California, 1980

Block Theory of Underground Structures, Univ of Arizona Short Course, Apr. 2010

Slope Stability and Landslides, Univ of Wisconsin-Madison, Short Course, Feb 2001

Evaluation and Mitigation of Seismic Hazards, Univ of California, Short Course, Aug 2000

Field Developed Cross Sections, AEG Short course, Sept 1998

Applied Hydrogeology Short Course, HLA, Dec 1988

8-Hour HAZWOPER Refresher (29 CFR 1910.120), 2004

8-Hour HAZWOPER Supervisor Training (29 CFR 1910.120), 1999

40-Hour Safety Training (29 CFR 1910.120), 1987

Professional Registration:

Certified Engineering Geologist, California, No. 2199

Professional Geologist, California, No. 6944

Registered Geologist, South Carolina, No. 2163

Experience:

Mr. Godwin has over 31 years of field and project management experience in an increasingly responsible role supporting engineering geologic investigations and construction. His project experience has included soft ground and hard rock tunnels, water and gas pipelines, transportation and commercial developments, fossil and nuclear generating facilities, and seismic reflection petroleum exploration. He has participated in soil and groundwater RI/FS/site remediation activities and written design documents, work plans, and construction reports. He has supervised teams for large geophysical and geotechnical site investigations of tunnels, fossil and nuclear power plants. His field duties have included soil, landslide, and bedrock mapping, borehole, fault and test pit logging, in situ testing, soil and rock restraining systems and installation, sampling and testing of monitoring and water supply wells.

Power Plants:

- **Wolf Creek Nuclear Generating Station, Essential Service Water (ESW) Pipeline.** Project Manager for geotechnical investigation of ESW cooling pipelines at the Wolf Creek Nuclear Generating Station, in Burlington, Kansas. Supporting the site coordinator, he was responsible for the NQA-1 Fugro program of onshore and offshore geotechnical drilling, sampling and electrical resistivity activities. He also coordinated laboratory testing and issuance of a data report.
- **Diablo Canyon Nuclear Power Plant (DCPP), Central California Coast Seismic Imaging Project.** Project Manager for onshore and offshore, 2D and 3D seismic reflection surveys in support of mapping of geologic structure for licensing of Pacific Gas & Electric Company DCPP facility. Responsible for implementing the Fugro NQA-1 program to capture all equipment calibration, software validations and data collection activities for low and high energy surveys. Working with Fugro Technical Directors, Mr. Godwin coordinated the procurement of 15 specialty subcontractors and laboratories. He also was responsible for survey of over 100 miles of Vibroseis and Accelerated weight-drop onshore survey transects in the Irish Hills using conventional and nodal receiver arrays, and up to 15 square km of 3D offshore surveys in Avila Bay, California.
- **Braka Nuclear Power Project, United Arab Emirates.** Project Manager for geotechnical investigation for siting of two-unit KEPCO EPRI 1400 nuclear generating facility. Responsible for planning and executing a diverse site characterization program under NQA-1 program, that included over 80 onshore borings to as deep as 180 meters, insitu pressuremeter and packer permeability testing, borehole geophysics and piezometer installation. Mr. Godwin, in collaboration with in-country Fugro affiliate and several U.S.-based laboratories, conducted lab testing of soil and rock and prepared data reports of the

results for use in updating of the Preliminary Safety Analysis Report (PSAR).

- **Puron/Cordero Mine Power Plant, Gillette, Wyoming.** Project Geologist on team to investigate siting and design a coal processing facility and power plant at an active coal mine. Performed logging of soil and rock borings, geologic mapping, and oversight of geophysical surveys.
- **Valero Benicia Co-Generation Project, Benicia, California.** Project Engineering Geologist during Application for Certification process to obtain 6-month California Energy Commission (CEC) approvals for a 110 MW gas-fired co-generation power plant on the refinery property. Tasks included updating the engineering geologic report and addressing review comments and concerns by California Geologic Survey [CGS] with respect to geologic hazards. During construction he observed and mapped 20ft high cuts into fill and rock, logging deep drilled pier borings and compiling geologic data related to soil nail walls and mechanically stabilized earth walls (MSE).
- **Crockett Co-Generation Facility, Crockett, California.** As Project Geologist, Mr. Godwin documented installation of over 50 deep cast-in-place pier foundations into rock for a gas-fired co-generation power plant adjacent to the C&H Sugar processing plant. During construction he mapped deep excavations into rock. He also conducted a geotechnical site investigation of nearby transition station location for transmission tower and switchyard.

Tunnels:

Professional Affiliations:

- SF Section Chair, Association of Engineering Geologists
- Geological Society of America
- American Society of Civil Engineers, Trenchless Installation of Pipelines Technical Committee

Publications:

Godwin, W.H., Henke, A., Ford, G. Lessons Learned from the Baker Beach Landfill Removal Project. Paper and Presentation of the International Association of Engineering Geologists, Congress 2010, Auckland, New Zealand, September, 2010.

Hughes, M., O'Banion, M., and Godwin, W.H., Auburn-Foresthill Bridge Seismic Retrofit Project. Paper and Presentation of the International Association of Engineering Geologists, Congress 2010, Auckland, New Zealand, September, 2010.

Godwin, W.H., Henke, A., Quigley, D.W., and Jacobvitz, M., 2007 Geotechnical Investigation, Baker Beach 1 & 2 Landfills, Presidio of San Francisco, San Francisco, California [abs.]: Presentation at Annual Meeting of the Association of Engineering Geologists, Los Angeles, California. September 2007.

Godwin, W.H., Quigley, D, and Liu, C, 2006 Mitigation Design of Geohazards Caused by Fire at Hydroelectric Facilities (abs), Presentation at Annual Meeting of the Association of Engineering Geologists, Boston, MA. November. Pg 57.

Godwin, W.H., and Korbay, S., 2001 Engineering geologic input to design and construction of the Foothill student housing project, University of California, Berkeley, California. CDMG Bulletin 210 and AEG Special Publication No.12, titled "Engineering Geology Practice in Northern California." Pg 529-538.

Godwin, W.H., and Valenzano, F., 2001, Application of Horizontal Directional Drilling to Limited Right-of-Way Gas Pipeline Design and Construction, a Case Study: Presentation and proceedings ASCE technical conference, Advances in Pipeline Engineering and Construction, San Diego, California.

Godwin, W.H. and Remely, A., 2000, Geotechnical exploration for large-diameter horizontal directional drilled gas pipelines [abs.]: Annual Meeting of the Association of Engineering Geologists, San Jose, California. September 2000.

MARK E. STELLJES, PHD

DIRECTOR OF RISK ASSESSMENT AND TOXICOLOGY

SLR

Dr. Stelljes has 23 years of professional experience in risk assessment consulting, as well as another seven years of experience in the fields of pharmacology, toxicology, zoology, and ecology. This experience has included managing, directing, and conducting numerous human health and ecological risk assessments for projects up to $6 million. He has conducted and/or managed multiple projects under various USEPA regional, and state and local jurisdictions, including both Superfund and RCRA sites. Dr. Stelljes' work has included metals, pesticides, herbicides, PCBs, dioxins, PAHs, explosives, a variety of TPH mixtures, and new chemicals being brought to market. He has been involved with product stewardship work in both the U.S. and Europe, and has developed safe workplace levels and provided recommendations for safe use of new chemicals. As part of this outreach and education, he has published a book designed to explain toxicology and risk assessment to non-toxicologists. The second edition was released in January 2008. Highlights of some of Dr. Stelljes' relevant project experience are presented below.

SELECTED PROJECT EXPERIENCE

- Conducting risk assessment peer review of a closed lumber mill along the northern California Coast. Activities include document review, attendance at agency and public meetings, and public outreach. Chemicals of interest at the site include petroleum hydrocarbons, PAHs, dioxins and furans, and some metals. This project is ongoing.
- Served as Project Manager for a $1.5 million baseline ecological risk assessment for a Superfund site involving 41 locations performed at a military installation in California. Soil, sediment, storm water, and surface water were evaluated as media of concern, including five terrestrial and three aquatic communities. The facility included extensive sand dunes and complex hydrogeology. Dioxins, pesticides, PAHs, and TPH were the primary chemicals of concern. The site was conducted under the Superfund Accelerated Cleanup method (SACM), and a completed RI/FS was conducted in 18 months. Included negotiating scope and strategies with agencies and natural resource trustees, budget tracking, and making presentations at public meetings. The ecological portion of the project included collection and chemical analysis of small mammals and leaf litter (i.e., invertebrates), as well as development of a growth bioassay in a specific plant species required for the life cycle of an endangered endemic butterfly. The lead agency was USEPA Region 9, with support provided by CalEPA DTSC.
- Designed a work plan to evaluate potential impacts of contaminated soil, sediments, groundwater, and surface water on aquatic and terrestrial communities as part of an RI/FS for a 600-acre Superfund site with over 15 operable units for the U.S. Navy in San Francisco, California. This was the first approved ecological risk assessment work plan for a military Superfund facility in the state of California, and the approach was adopted by the State of California, Department of Toxic Substances Control, in their draft ecological risk assessment guidance.
- Conducted Risk Assessment as part of a 10-year Remedial Action Plan review for an industrial facility in San Leandro, California. This site, under DTSC jurisdiction, had 3 groundwater treatment systems operational to clean up TCE-impacted water. At the time the RAP review began, one treatment system was still operational. Upon review of data,

we recommended that the final treatment system be shut down, even though groundwater concentrations still exceeded MCLs. However, the risk assessment was approved by DTSC, and shutdown of the final treatment system has been approved by DTSC. This results in substantial project cost savings for the client.

- Member of Technical Expert Advisory Committee for CalOSHA. As a committee member, responsible for review of toxicological data on the state's list of priority compounds, and providing recommendations regarding occupational exposure limits for use in California. Three-year term of service (2007-2009).
- Designed, implemented, and managed a baseline data collection program for a prospective mine site in southwestern Alaska. This work involved collection of soil, plant, sediment, surface water, groundwater, and fish to identify baseline concentrations of metals in the absence of development. The work supported a litigation case regarding the potential impacts of the drilling program on water quality. As demonstrated by critically reviewing over 150,000 separate data points on water quality, the judge ruled in our client's favor that no drilling impacts on water quality could be identified. Further work is ongoing. Managing a "portfolio" risk assessment approach for an oilfield in Alaska under a RCRA Order. Several thousand SWMUs are included in the Order, and rather than conduct separate assessments at each SWMU, they are grouped according to use, contamination, and conceptual site model into several groups; each group is then evaluated in a single risk assessment. This results in substantial time and cost savings for the client over the duration of the Order. Work to date has included development of an overall Site Conceptual Model document including site-specific human health and ecological screening levels, a barium bioaccessibility study in soil, habitat mapping at 35 SWMUs, and strategic site planning and management. This study is ongoing.

EDUCATION

Ph.D. Environmental Toxicology/Pharmacology, University of California – Davis 1990

M.A. Wildlife Biology, University of Missouri 1982

B.S. Zoology, The Ohio State University 1978

PROFESSIONAL AFFILIATIONS

Society for Risk Analysis (SRA)

Society for Risk Analysis, Northern California Chapter (Councilor 2002-2008)

Society of Toxicology (Full Member)

Society of Environmental Chemistry and Toxicology (SETAC)

MESTRE GREVE ASSOCIATES

Fred A. Greve, P.E.
Mestre Greve Associates - Principal
Community Noise & Air Quality Specialist

Mr. Greve has over twenty-five years experience in all fields of noise assessment and air quality management. Principal experience includes noise and air quality modeling for traffic networks, airports, transportation corridors, and planned communities on the local, state, federal and industrial level. This experience includes legislative monitoring of air and noise regulations, development of ambient air monitoring facilities, and management of aircraft noise monitoring networks.

EXPERIENCE

Principal in Charge of the development of Noise Elements for the Cities of Dana Point, Inglewood, Irvine, Beaumont, Stanton, Rialto, Fountain Valley, Solvang, and Palm Springs. Principal in Charge of updates to the Noise Elements for the Cities of Glendale, Santee, and the County of Monterey.

Principal in Charge of the technical noise and air quality assessment reports for the following recent EIR projects: Planning Areas 18 and 39 General Plan Amendment and Zone Change, City of Irvine; Perris Ridge Commerce Center, City of Perris; Ontario Gateway Specific Plan, City of Ontario, CA;

Principal in Charge of the noise and air quality assessments for the proposed Foothill Transportation Corridor-South EIS/SEIR project. This study includes the analysis of various alternatives proposed by the Transportation Corridor Agencies.

Principal in Charge of the Carbon Monoxide Monitoring Program for the San Joaquin Hills Transportation Corridor. This program included monitoring air quality levels at three sites near the corridor in order to determine if air quality standards had been exceeded, and to make recommendations as to potential remedial actions if necessary.

Project Manager for the air quality assessment for MCAS El Toro Community Reuse Plan and EIR, the noise assessments for CFB Greenwood Relocation for Base Closure and Realignment Study and CFB Trenton Relocation for Base Closure and Realignment Study, and the air quality assessment for the Master Plan Alternatives for EA Analysis for Jackson Hole Airport.

Project Manager for the noise assessments for the Toland Road Landfill Expansion Project, the Lancaster Landfill Expansion Project, and the North Orange County Landfill and Alternative Technologies Study.

Principal in charge for the noise and air assessments for the proposed Freeway Route 125 in San Diego County, Arizona Route 93, the San Joaquin Hills Transportation Corridor in Orange County, and numerous freeway interchange projects.

Project Manager of the noise assessment for the Orange County Sanitation District Groundwater Replenishment System project; Principal in charge of the noise assessments for the Encino Reservoir Water Quality Improvement Project, the Stone Canyon Water Quality Improvement Project, the Hollywood Water Quality Improvement Project for the Los Angeles Department of Water and Power.

Principal in charge of the air quality assessments for the Eastern Transportation Corridor, HOV Lane Additions to the Orange Freeway and the Riverside Freeway.

Principal in charge for the noise assessments for the Culver Drive Realignment and Widening in Irvine, the I-5/I-405 Freeway Confluence Zone in Orange County, the I-405 Freeway Design Alternatives Study, Route 178 in Bakersfield, Foothill Transportation Corridor, widening of Imperial Highway, and the Moulton Parkway Super Street in South Orange County.

Project Manager for many industrial noise projects including the Coyote Canyon Gas to Energy Plant, the Spadra Landfill Gas to Energy Plant, Anaheim Power Generation Plant, the expansion of the San Clemente Wastewater Treatment Plant, and expansion of the SERRA Treatment Plant in Dana Point.

Project Manager for air quality assessments for regional planning efforts implemented by the City of Irvine and the planned communities of Aliso Viejo and Laguna Niguel. Projects included coordination with local Air Quality Management Plan (AQMP) efforts.

EDUCATION

M.S., Environmental Engineering, 1975, University of California, Irvine
B.S., Civil and Environmental Engineering, 1973, UCI
B.S., Biological Science, 1973, University of California, Irvine

PROFESSIONAL REGISTRATION

Registered Professional Engineer, 1978, Civil Engineering, California, No. C 31701
Certified Acoustical Consultant, County of Orange
Certified Acoustical Consultant, County of San Diego

PROFESSIONAL BACKGROUND

Entered the profession in 1973; co-founder of Mestre Greve Associates in 1978. His professional affiliations include membership in the Acoustical Society of America, the Air and Waste Management Association, the Air Pollution Control Association, the National Association of Noise Control Officials, and American Society of Civil Engineers. He is a frequent guest lecturer on air quality assessment techniques at the University of California, Irvine.

PUBLICATIONS

Air Quality Modeling as a Management Tool for Airports, presented at the Airports Council International - Pacific Region in Vancouver, Canada, August 1995.

Comparison of Noise Measurements along Arterial Roadways with the FHWA Highway Traffic Noise Prediction Model, with Vincent Mestre, presented at the 1982 National Association of Noise Control Officials Conference.

A Monitoring System for Long Term Aircraft Noise Measurements, with Vincent Mestre, Sound and Vibration, February 1982.

Carbon Monoxide Transport from Freeways: Evaluation of Major Models, with G. S. Samuelsen, UCI Combustion Laboratory Report UCI-ARTR-78-6.

Matthew B. Jones, P.E.

Mestre Greve Associates
Manager, Environmental Services

Mr. Jones joined Mestre Greve Associates in 1987. He has nearly nineteen years experience in all fields of noise assessment and air quality management. Work efforts include project management, software development, engineering analysis, report preparation, as well as noise and air quality monitoring. As Manager of Environmental Services, Mr. Jones is responsible for the coordination of all environmental services at Mestre Greve Associates. These services include noise and air quality assessments for EIR/EIS, highways, residential and commercial developments and airports. Mr. Jones is involved in the development of most of the in house computer software modeling programs and is well versed in all of the air quality and noise modeling programs used at Mestre Greve Associates.

EXPERIENCE

Representative project experience consists primarily of EIR noise and air quality assessments for many commercial and residential projects including:

Air Quality And Noise Assessments: Planning Areas 18 and 39 General Plan Amendment and Zone Change, Irvine, CA; Perris Ridge Commerce Center, Perris, CA; Ontario Gateway Specific Plan, Ontario, CA; Palazzo Westwood, Los Angeles, CA; 2000 Avenue of the Stars, Los Angeles, CA; Chandler Ranch Specific Plan, Paso Robles, CA; Santiago Hills II, Orange; CA; Spring Mountain, Riverside, CA; Planning Area 17, Irvine, CA; Diemer Filtration Plant, Los Angeles Department of Water and Power, CA; Los Angeles Unified School District (LAUSD) Venice Skills Center, Belmont Primary Center and Santa Monica Primary Center, Los Angeles; CA; Mission Hospital and Medical Center, Mission Viejo, CA; St. Jude's Hospital Expansion, Fullerton, CA; St. Joseph's Orange Medical Center, Orange, CA.

Air Quality Assessments: The Crest, San Bernardino County, CA, Vista School District Family Literacy Center, Vista, CA.

Noise Assessments: Northern Sphere, Irvine; CA; Planning Area 40/Spectrum 8, Irvine, CA; UCI Medical Center Long Range Development Plan, Orange, CA; Amerage Heights, Fullerton, CA; Segerstrom Home Ranch, Costa Mesa, CA; Crystal Cove Retail Center, Newport Coast, CA; Well No. 12, Huntington Beach, CA, SDG&E Moreno Compressor Station, Moreno Valley, CA; Trabuco Grove Retail Center, Irvine, CA.

Highway EIR Noise and Air Quality Assessments: Aviation Boulevard Widening, Los Angeles County, CA, Foothill Transportation Corridor/Santa Margarita Parkway Interchange widening, Orange County; CA, San Joaquin Hills Transportation Corridor/ Interchange addition, Orange County; CA; Northwest Arkansas Airport Intermodal Access Road, AR; Eastern Transportation Corridor, Orange County.

Highway Noise Assessments and Noise Barrier Design to satisfy FHWA and Caltrans requirements: South Orange County Transportation Infrastructure

Improvement Program (SOCTIIP), Orange County, CA; State Street Extension, San Bernardino, CA; Jeffery Road Grade Separation, Irvine, CA; Alicia Parkway Widening, Mission Viejo, CA; Avenue S Widening, Palmdale, CA; Magic Mountain Parkway Widening, Los Angeles County, CA; Bristol Street Widening, Santa Ana, CA.

Preparation of the Noise Elements for the General Plans of the Cities of Santa Monica, Glendora, Highland, Stanton, and Dana Point.

Air quality modeling using the FAA's Airport Air Quality Modeling Program (EDMS) for the New Orleans International Airport Phase II EIS, New Orleans, Louisiana; Vancouver International Airport Air Quality Assessment, Vancouver, Canada; Boise Airport, Boise, Idaho.

Noise monitoring and data analysis for the Pilot Aircraft Noise Impact Assessment on the Grand Canyon and Volcano National Parks.

EDUCATION

B.S. Engineering Physics, Acoustics Specialization, June 1994
University of California, San Diego, Summa Cum Laude

A.A. Liberal Arts with a Certificate in Recording Arts, 1992
Golden West College, Huntington Beach, CA

PROFESSIONAL REGISTRATION

Registered Professional Engineer in the State of California, (Electrical #17156)

PROFESSIONAL AFFILIATIONS

Acoustical Society of America
Association of Environmental Professionals
Air and Waste Management Association
American Institute of Physics
Audio Engineering Society

Vincent E. Mestre, P.E.

Mestre Greve Associates - Principal
Acoustical Engineer

Mr. Mestre has over twenty-five years experience in noise control and acoustical engineering. Included in this experience are project management, program analysis, client coordination, and extensive computer modeling of environmental impacts for use in noise and acoustical analyses. He founded Mestre Greve Associates in 1978 as a Professional Engineering firm specializing in acoustics and noise control with special emphasis on computerized measurement and analysis. Relevant experience includes the following:

Principal in charge of the noise assessment for the Honolulu International Airport Master Plan and Noise Compatibility Program Update for the Hawaii Department of Transportation. Mestre Greve Associates is currently preparing the noise analysis portion of this study for the Honolulu International Airport.

Principal in Charge of the San Antonio International Airport EIS - Phase 2 project for the City of San Antonio, Texas. The purpose and need for this project was to increase capacity for air carrier activity. The existing runway is limited to 59,000 lbs., precluding most air carrier aircraft. The reconstruction and lengthening would remove current restrictions on Runway 12L/30R for jet departures and arrivals. The study includes a detailed noise measurement survey, computer modeling, and assessment of various strategies to protect against future noise impacts.

Principal in Charge of the Noise Analysis/Sound Insulation Program for the City of San Leandro, California. Homes located within Oakland Airport's 65 db CNEL are eligible to participate in the Airport's Sound Insulation Program. The Airport is currently in the process of sound insulating over 600 homes in Bay Farm Island, Alameda. Additionally, 200 homes in San Leandro are scheduled for sound insulation starting in 2005. Five schools in San Leandro and San Lorenzo will also be part of the program.

Recently completed an analysis as part of the North Field Flight Pattern Research Group of the North Field nighttime operations at Oakland International Airport in order to minimize the impact of smaller aircraft on Alameda and San Leandro. Group members include representatives from Alameda, San Leandro, the Airport and FAA.

Principal in charge of the New Orleans International Airport FAR Part 150 Noise Exposure and Land Use Compatibility Study Update for the City of New Orleans. Mestre Greve Associates recently completed the noise analysis portion of this study for the New Orleans International Airport. The study included a detailed noise measurement survey, computer modeling, and assessment of various strategies to protect against future noise impacts. The resulting noise abatement program developed for New Orleans was tailored specifically to the needs and problems facing the airport and the surrounding community.

Project Manager responsible for the preparation of, or the update to, the Noise Elements of the General Plan or the technical element of the Noise Element for the Cities of Santa Monica, Culver City, Laguna Beach, Newport Beach, and Irvine. Policy component of the programs

included the development of goals, policies, and implementation programs including both the development of noise control programs and revision/update of the noise ordinance. Technical components of the program include a comprehensive noise measurement survey of existing noise sources and a computer modeling assessment of both the existing and future environment and preparation of city noise contours. Sources of noise within these communities that were modeled included freeways, arterial roadways, railroads, civilian and military airports, helicopter operations, industrial and commercial centers and recreational activities.

EDUCATION

Masters of Science in Mechanical Engineering 1975, University of California, Irvine
Bachelor of Science in Civil Engineering, 1973, University of California, Irvine

PROFESSIONAL AFFILIATIONS

National Association of Noise Control Officials
Society of Automotive Engineers - Member of the Society of Automotive Engineers A-21 Subcommittee that is developing standard procedures for the monitoring of aircraft noise sources. Responsibilities include development of statistical sampling requirements for noise measurement systems.

REGISTRATION

Registered Professional Engineer in the State of California, (Mechanical #18786)

PUBLICATIONS

Determining the Effects of Alternative Departure Cutback Altitudes and Power Settings: A Case Study, John Wayne Airport, 1994 National Conference on Noise Control Engineering, May 1994

Santa Monica Airport Noise Control Program - A New Concept in Airport Noise Ordinances, 1984 International Conference on Noise Control Engineering, 1984.

Comparison of Noise Measurements Along Arterial Roadways With the FHWA Highway Traffic Noise Prediction Model, 1982 National Conference Environmental and Occupational Noise Proceedings, September 1982.

A Monitoring System for Long Term Aircraft Noise Measurements, Sound and Vibration, February 1982.

Handbook of Environmental Impact Analysis, co-authored Noise Chapter with D.C. Wooten, McGraw-Hill, 1980.

Anechoic Chamber for Transportation Noise Research, with D.C. Wooten, University of California, Irvine, June 1977.

The California General Plan Noise Elements, with D.C Wooten, Inter-Noise 74 Proceedings, Washington, D.C., October 1974.

Mestre Greve Associates - Environmental Impact Report Projects List 2002 - 2007

Client	Project Name	City	County	Date	Technical Study:
City of Glendale	Noise Element of G. P. Update	Glendale	LA	Current	Noise Element Update
Willdan Group	Ontario Redevelopment Project A(	Ontario	SB	Current	AQ EIR
Willdan Group	Ontario Redevelopment Project DI	Ontario	SB	Current	Health Risk Assessment
Urban Futures, Inc.	City of Industry Rec-Indust. Project	City of Industry	LA	2/26/2007	Noise EIR
Urban Futures, Inc.	City of Industry Rec-Indust. Project	City of Industry	LA	2/23/2007	AQ EIR
Lilburn Corporation	Baseline Road Master Plan NZ	Upland	SB	2/7/2007	Health Risk Assessment
Lilburn Corporation	Baseline Road Master Plan DPM	Upland	SB	1/24/2007	Noise EIR
Lilburn Corporation	Baseline Road Master Plan AQ	Upland	SB	11/8/2006	AQ EIR
Lilburn Corporation	Ontario Gateway/Bates S.P. NZ	Ontario	SB	########	Noise EIR
Lilburn Corporation	Ontario Gateway/Bates S.P. AQ	Ontario	SB	########	AQ EIR
Michael Brandman Associates	Moreno Highlands SDG&E & SCG	Moreno Valley	RIV	4/5/2006	Noise EIR
J & R Fleet Services	Eagle Rock Truck Repair Facility AQ		SB	3/6/2006	AQ
J & R Fleet Services	Eagle Rock Truck Repair Facility DPM		SB	3/6/2006	Health Risk Assessment
J & R Fleet Services	Eagle Rock Truck Repair Facility NZ		SB	3/6/2006	NZ
Culbertson Adams	Balboa Marina	Newport Beach	OC	3/1/2006	AQ-Construction Emission
Phil Martin & Associates	T 16929 AQ	Fountain Valley	OC	2/27/2006	AQ - Constuction Only
The Irvine Company	Sakioka Lot 1 NZ	Costa Mesa	OC	2/22/2006	Noise Assessment
The Irvine Company	Sakioka Lot 1 AQ	Costa Mesa	OC	2/17/2006	AQ - Constuction Only
Hogle Ireland, Inc.	Rancho Del Oro	San Bernardino	SB	2/16/2006	AQ
Hogle Ireland, Inc.	TT17239 & 17754 Noise	San Bernardino	SB	2/13/2006	Noise EIR
Hogle Ireland, Inc.	TT17239 & 17754 AQ	San Bernardino	SB	2/9/2006	AQ
Ridge Property Trust	Perris Ridge Comm Center AQ	Perris	RIV	1/19/2006	AQ
City of Glendale	210 Freeway Noise Monitoring Stu	Glendale	LA	1/17/2006	Noise Element Addendum
Hodge and Associates	Bridgeport Mixed use Project NZ	Newport Beach	OC	1/6/2006	EIR
Hodge and Associates	Bridgeport Mixed use Project AQ	Newport Beach	OC	1/6/2006	AQ
The Irvine Company	PA-18, 34, 39, 37, Lot 104 DPM	Irvine	OC	########	Health Risk Assessment
Ridge Property Trust	Perris Ridge Comm Center NZ	Perris	RIV	########	Noise EIR
P & D Environmental	Diemer Filtration Plan EIR	Yorba Linda	OC	12/8/2005	Water Filtration Plant, Nois
BonTerra Consulting	Hoag Hospital NZ	Newport Beach	OC	########	Noise EIR
BonTerra Consulting	Hoag Hospital AQ	Newport Bwch	OC	########	AQ EIR
The Planning Consortium	Fontana Promenade AQ	Fontana	RIV	########	AQ

Mestre Greve Associates - Environmental Impact Report Projects List 2002 - 2007

Client	Project Name	City	County	Date	Technical Study:
The Planning Consortium	Fontana Promenade NZ	Fontana	RIV	########	NZ
The Irvine Company	PA 18, PA33 Lot 109, PA 34, PA3	Irvine	OC	########	AQ EIR
The Irvine Company	PA 18, PA33 Lot 109, PA 34, PA3	Irvine	OC	########	Noise EIR
Sid Lindmark	Mount San Antonio College NZ	Walnut	LA	11/9/2005	NZ
Sid Lindmark	Mount San Antonio College AQ	Walnut	LA	11/9/2005	AQ
Hodge and Associates	Murray Center AQ	Mission Viejo	OC	########	AQ EIR
Hodge and Associates	Murray Center NZ	Mission Viejo	OC	########	Nz EIR
City of Laguna Beach	Noise Element Update	Laguna Beach	OC	########	Noise Element Update
Hogle Ireland	Indio Fashion Mall AQ	Indio	RIV	########	Specific Plan AQ
Hogle Ireland	Indio Fashion Mall NZ	Indio	RIV	########	Specific Plan NZ
Culbertson Adams	Seal Beach Center	Seal Beach	OC	10/3/2005	AQ
Chambers Group	SR-91 EB Lane Add (241 to 71)		OC	9/25/2005	AQ Conformity
Hogle Ireland	Renaissance Apartments NZ	Carson	LA	8/17/2005	NZ EIR
Hodge and Associates	Commons @ Aliso Viejo Town Cer	Aliso Viejo	OC	8/4/2005	EIR Nz
Sapetto Group	Lambert Ranch NZ	Irvine	OC	7/25/2005	Noise
Sapetto Group	Lambert Ranch AQ	Irvine	OC	7/25/2005	AQ
Hodge and Associates	Aliso Viejo Town Center AQ	Aliso Viejo	OC	7/19/2005	AQ
Shea Homes	DPM Analysis, TT 16985	Santa Ana	OC	7/11/2005	Health Risk Assessment
Shea Homes	AQ, TT 16985	Santa Ana	OC	7/11/2005	AQ
Nossamon, Guthner, Knox, E	Tick Canyon / Park Place	Santa Clarita	LA	6/16/2005	AQ Review
Hogle Ireland	Tri City Plaza	San Bernardino	SB	5/23/2005	EIR AQ
The Planning Consortium	Fontana - Nz	Fontana	RIV	4/15/2005	Noise
The Planning Consortium	Fontana - AQ	Fontana	RIV	4/15/2005	AQ
BonTerra Consulting	Olen Co Commonwealth Condo	Fullerton	OC	4/13/2005	AQ EIR
The Irvine Company	Jeffrey Soundwall	Irvine	OC	4/5/2005	Noise
Cotton Bridges Associates	Otay Ranch Nz		SD	3/24/2005	EIR Nz
Cotton Bridges Associates	Otay Ranch AQ		SD	3/24/2005	EIR AQ
RBF	I-5/Culver Ramp (left turn lane)	Irvine	OC	2/15/2005	EIR NZ
Ridge Property Trust	Moreno Valley Centerpoint	Riverside	RIV	2/1/2005	Noise
Lilburn	Cemex Ready Mix	Perris	RIV	1/27/2005	Noise EIR
The Irvine Company	PA1 / PA9	Irvine	OC	1/21/2005	Noise EIR

Mestre Greve Associates - Environmental Impact Report Projects List 2002 - 2007

Client	Project Name	City	County	Date	Technical Study:
The Irvine Company	PA-1 (Planning Areas 1,2,9) AQ	Irvine	OC	1/19/2005	AQ (pm-10)
Fieldstone (Susan Paradiso)	T 30322-1 Winchester 63		RIV	########	NZ Assessment
The Brehm Company	TT32136	Riverside	RIV	########	NZ Assessment
Standard Pacific	First and Bush	Santa Ana	OC	12/6/2004	AQ
City of Santa Ana	First and Bush St.	Santa Ana	OC	########	EIR nz
BonTerra Consulting	Oso Parkway Widening	Orange County	OC	########	Noise EIR
Vista/ CHOC	CHOC Parking Structure AQ	Orange	OC	11/2/2004	AQ EIR
Vista/ CHOC	CHOC Parking Structure NZ	Orange	OC	11/2/2004	Noise EIR
Lilburn Corporation	Martin Ranch	San Bernardino	SB	########	Noise EIR
Phil Martin	Sunny Hills Mixed-Use AQ	Fullerton	OC	########	AQ EIR
Phil Martin	Sunny Hills Mixed Use NZ	Fullerton	OC	########	NZ EIR
Culbertson Adams & Associat	OLDE Community School AQ	Fountain Valley	OC	9/22/2004	AQ EIR
Culbertson Adams & Associat	OLDE Community School NZ	Fountain Valley	OC	9/22/2004	Noise EIR
OCTA	I-5/Calle Juanita SU Retrofit	Dana Point	OC	9/19/2004	Noise
Urban Futures	Lemoore Walmart NZ	Lemoore	Kings	9/2/2004	Noise
Urban Futures	Lemoore Walmart AQ	Lemoore	Kings	9/2/2004	AQ
Lilburn	Ranchero Road Noise	Hesperia	SB	8/25/2004	Noise
Lilburn	Ranchero Road AQ	Hesperia	SB	8/25/2004	AQ
BonTerra Consulting	Moulton Pkwy Widening	Lag Hill/Lag Wo	OC	8/12/2004	Road Widening SEIR
Hodge and Associates	Glenwood @ Aliso Viejo	Aliso Viejo	OC	8/3/2004	Noise
Hodge and Assocaites	Glenwood AQ	Aliso Viejo	OC	7/24/2004	AQ
BonTerra Consulting	Mountain Park AQ	Anaheim	OC	7/11/2004	AQ EIR
BonTerra Consulting	Mountain Park Nz	Anaheim	OC	7/11/2004	NZ EIR
RBF Consulting	I-5 Culver SB Off-ramp Widening	Irvine	OC	7/10/2004	FHWA/CALTRANS
Templeton Planning Group	Friends Christian High School	Yorba Linda	OC	6/15/2004	Nz Section EIR
Silverstone Development Co.,	Western Village TT 32376	Anaheim	OC	5/20/2004	Noise & AQ EIR
BonTerra Consulting	Deer Canyon Estates	Anaheim	OC	5/13/2004	Noise
BonTerra Consulting	Lincoln Avenue Widening	Anaheim	OC	5/10/2004	EIR
Analytical Environmental Svcs	Timbisha Shoshone Casino/Hotel	Hesperia	SB	5/7/2004	EIR
RBF Consulting	I-5 Trabuco Soundwall	Irvine	OC	4/28/2004	EIR
Lilburn	Hi Grade Materials Co. Plant	Palmdale	LA	4/22/2004	EIR

Mestre Greve Associates - Environmental Impact Report Projects List 2002 - 2007

Client	Project Name	City	County	Date	Technical Study:
The Planning Consortium	Fontana Auto Mall Nz	Fontana	RIV	4/20/2004	Noise
Ridge Property Trust	Moreno Valley Centerpointe NZ	Moreno Valley	RIV	4/5/2004	Noise EIR
Phil Martin & Associates	National City Downtown S. P. Nz	National City	SD	3/17/2004	AQ EIR
The Brehm Companies	TT 31826 NZ		RIV	3/10/2004	Noise EIR
Culbertson Adams	The Village at Rossmoor NZ	Seal Beach	OC	2/18/2004	Noise EIR
The Irvine Company	Mountain Park School Site DPM	Orange	OC	2/12/2004	Health Risk Assessment
Shea Homes	Tonner Hills Oil		OC	1/25/2004	Noise
Keeton Kreitzer Consulting	St. Andrews Church NZ	Newport Beach	OC	1/21/2004	Noise
BonTerra Consulting	Pelican Hills, Noise		OC	1/16/2004	Noise
Project Design Consultants	Rancho San Juan S.P. - Noise		Monterey	1/15/2004	Noise
City of Glendale	Glendale Sports Park, Part II	Glendale	LA	1/9/2004	Noise
The Brehm Companies	TT 31309, Noise		RIV	########	Noise EIR
Lilburn Corp.	Grand Terrace Adventure Ctr NZ	Grand Terrace	SB	12/2/2003	Noise EIR
Lilburn Corp.	Baseline Rd. Master Plan AQ	Upland	SB	########	AQ EIR
RBF Consulting	Culver Drive Widening	Irvine	OC	########	Noise EIR
RJ Noble	RJ Noble Asphalt Plant	Orange	OC	########	Noise
Silverstone Development Co,	The Trails, TT 30598 NZ	San Jacinto	RIV	########	Noise EIR
Templeton Planning Group	Scholle Development NZ	Irvine	OC	########	Noise EIR
Culbertson Adams & Associat	Ambuehl Elem School Exp. NZ	San Juan Capo	OC	9/29/2003	Noise EIR
Culbertson Adams & Associat	San Juan Capistrano Elem School	San Juan Capo	OC	9/25/2003	Nz
Hodge & Associates	Westminster Comm. Cult. Ctr. NZ	Westminster	OC	9/25/2003	Noise EIR
Bon Terra Consulting	PA-4 Culver/I-5 Nz	Irvine	OC	9/22/2003	Noise
Culbertson Adams & Associat	Arroyo Vista Elem. School NZ	Rcho Santa Mar	OC	9/16/2003	Noise EIR
Culbertson Adams & Associat	Arroyo Vista Elem. School AQ	Rcho Santa Mar	OC	9/17/2003	AQ EIR
Golden Era Productions	Golden Era Production Facility	Gilman Hot Sprç	RIV	5/6/2003	Noise
Culbertson Adams & Associat	Boating Inst. & Safety Center Nz		Ventura	3/26/2003	Noise EIR
Martin Potts Associates	Quail Hill Village Ctr.	San Diego	SD	3/12/2003	Noise EIR
BonTerra Consulting	North Park Village, S.P.	Moorpark	Ventura	1/30/2003	Noise EIR
Hodge and Associates	Fountain Valley Hosp. Exp. NZ	Fountain Valley	OC	########	NZ
Martin Potts Associates	Shady Canyon Golf Club	Irvine	OC	########	Noise EIR
RBF Consulting	Culver Drive Widening - NEPA	Irvine	OC	12/9/2002	Noise EIR

Mestre Greve Associates - Environmental Impact Report Projects List 2002 - 2007

Client	Project Name	City	County	Date	Technical Study:
Hover Development	Pala Mesa Island		SD	10/9/2002	Noise EIR
Lilburn Corporation	State Street Extension	San Bernardino	SB	10/9/2002	Road Extension CEQA
RBF Consulting	Miles/Clinton Widening Project	Indio	RIV	9/12/2002	Noise EIR
LSA	Kohl's Costa Mesa	Costa Mesa	OC	9/4/2002	Noise EIR
Lilburn	Dry Dock Depot	Upland	SB	8/12/2002	RV Storage Noise EIR
BonTerra Consulting	Plaza Residences Nz	Costa Mesa	OC	8/12/2002	Noise EIR
City of Santee	City of Santee G.P. Update Nz	Santee	SD	8/9/2002	Noise Element Update
City of Santee	City of Santee G.P. Update ZQ	Santee	SD	8/10/2002	Air Quality Element Updat
Lilburn Corp.	Alexander Communities	Upland	SB	8/8/2002	Noise EIR
Starpointe Venture	MetLife Apartments Nz	Irvine	OC	7/25/2002	EIR
Phil Martin and Associates	Sam's Club Expansion NZ	Fountain Valley	OC	7/2/2002	Noise EIR
Phil Martin and Associates	Sam's Club Expansion AQ	Fountain Valley	OC	7/3/2002	AQ EIR
TRC	St. Jude Hosp Expansion NZ	Fullerton	OC	6/10/2002	Noise EIR
TRC	St. Jude Hosp Expansion AQ	Fullerton	OC	6/11/2002	AQ EIR
Templeton Planning	Culver Widening	Irvine	OC	4/19/2002	Noise EIR
TRC	St. Joseph Medicenter Nz	Mission Viejo	OC	3/26/2002	Noise EIR
TRC	St. Joseph Medicenter AQ	Mission Viejo	OC	3/27/2002	AQ EIR
Doug Wood and Associates	Vineyard Community Church AQ	San Luis Obispo		3/22/2002	AQ EIR
Doug Wood and Associates	Vineyard Community Church NZ	San Luis Obispo		3/22/2002	Noise EIR
Lilburn Corp.	Pluto Development	Apple Valley	SB	3/6/2002	Nz Warehouse distributior
Allied Waste (Hofman Plannir	Palomar Transfer Station Expansio	Carlsbad	SD	2/7/2002	Noise
Barnard Dunkelberg & Co.	Interstate 75 HWY Widening NZ	Tulsa, OK		1/25/2002	Noise
Barnard Dunkelberg & Co.	Interstate 75 HWY Widening AQ	Tulsa, OK		1/26/2002	AQ
Belmont Corporation	Belmont Village Assist. Liv. Facility	Rcho Palos Verc	LA	1/6/2002	Noise EIR
Belmont Corporation	Belmont Village Assist. Liv. Facility	Rcho Palos Verc	LA	1/7/2002	AQ EIR